







THE TWELFTH  
**A**NNUAL REPORT  
ON THE HEALTH  
OF THE  
COUNTY BOROUGH of WIGAN,  
FOR THE

*Year ending December 31st, 1907,*

BY

WILLIAM BERRY,

F.R.C.S.I., D.P.H., F.P. & S., Glasgow.

Fellow of the Incorporated Society of Medical Officers of Health.

Past President of the North-Western Branch.

Fellow of the Royal Sanitary Institute.

Fellow of the Royal Institute of Public Health.

Fellow of the Royal Academy of Medicine, Ireland.

Medical Officer of Health, and

Medical Superintendent of the Borough Sanatorium for  
Infectious Diseases.



WIGAN

THOS. WALL AND SONS LTD., PRINTERS, "OBSERVER" OFFICE,



Digitized by the Internet Archive  
in 2018 with funding from  
Wellcome Library

<https://archive.org/details/b3027624x>

## TABLE OF CONTENTS.

	Page
Health Committee ... ..	5
Sanitary Works Committee ... ..	6
Sanatorium Sub-Committee ... ..	7
Insanitary Houses Committee ... ..	7
Medical Officer of Health's Department ... ..	8
Local Government Board Regulation .. ...	9

### PART I.

#### VITAL STATISTICS.

Statistical Summary for 1907 .. ...	15
Acreage, Population, Births, and Mortality Rates ... ..	15
Vital Statistics for England and Wales for 1907 ... ..	16
Table I.—Weekly Return of Births and Deaths .. ...	17
Table II.—Monthly Table of Deaths from all causes and Zymotic Diseases with Rates per 1,000 per annum ... ..	18
Table III.—Table Showing Comparative Statistics between Wigan and other Towns during 1907 ... ..	19
Table IV.—Death Rate for Wigan during the last ten years ...	20
Wigan Census, 1901 ... ..	21
County Borough of Wigan, No. of Inhabited Houses, &c. ... ..	22
Local Government Board Returns:—	
Table I.—Vital Statistics of whole District during 1907 and previous years ... ..	23
Table II.—Vital Statistics of Separate localities in 1907 and previous years ... ..	24
Table III.—Cases of Infectious Diseases notified during year 1907 ... ..	25
Table IV.—Causes of, and Ages at, Death during the year 1907 .. ...	26
Table V.—Infantile Mortality during the year 1907 ...	27
List of Streets in which Deaths from various Diseases occurred	28

**PART II.**

Chart I. ... ..	Facing Part II.	
Causes of Death—The Zymotic Diseases ... ..	35	
Table of Zymotic Diseases ... ..	35	
Death Rates, 1907... ..	36	
No. of Notifications compared with other years... ..	36	
Analysis of Notifications ... ..	36	
Smallpox ... ..	37	
Vaccination Returns, 1906—1907 ... ..	37	
Scarlet Fever .. ..	39	
Death Returns, Chart ... ..	Facing 39	
Measles ... ..	43	
Chart 2 .. ..	Facing 43	
Whooping Cough ... ..	44	
Chart 3 ... ..	Facing 44	
Typhus Fever ... ..	45	
Enteric Fever ... ..	45	
Diarrhœa ... ..	74	
Diphtheria ... ..	80	
Erysipelas ... ..	82	
Puerperal Fever ... ..	86	
Sanatorium :—Whelley and Pemberton Hospital ... ..	86	
Constitutional Diseases :—		
Tubercular Diseases ... ..	91	
Rheumatism ... ..	93	
Local Diseases : Respiratory Diseases ... ..	93	
Inquests and Uncertified Deaths ... ..	93	

**PART III.**

Factory and Workshop Act, 1901 ... ..	97
Shop Hours Act, 1892—1899 ... ..	105
Closing Order, 1904—Shop Hours Act... ..	105
Meat Inspection and Slaughter Houses... ..	106
Report on Ptomaine Poisoning ... ..	109
Dairies, Cowsheds, and Milkshops Order, 1885 and 1886 ... ..	115
Water Supply ... ..	116
Rainfall ... ..	118-119
Black Smoke Nuisance ... ..	119
Property Unfit for Human Habitation... ..	121
Unpaved Yards and Passages ... ..	122
Borough Surveyor's Department ... ..	122
Scavenging ... ..	122
Midwives' Act, 1902 ... ..	123
Notification of Births Act, 1907. . . . .	125
Education Act, 1902—1904 ... ..	126
Public Analyst's Report ... ..	127
Report of Delegates—Royal Sanitary Institute Conference ... ..	155



## HEALTH COMMITTEE.

From November, 1907, to November, 1908.

CHAIRMAN :

ALDERMAN J. PHILLIPS, J.P.

VICE-CHAIRMAN :—COUNCILLOR J. BRADSHAW.

THE MAYOR.

THE EX-MAYOR.

ALDERMAN A. BYWATER, J.P.

COUNCILLOR H. BARTON.

„ M. BENSON, M.D.

„ R. T. FLETCHER.

„ J. P. HEYES.

„ W. HICKEY.

„ A. E. MATHER.

„ H. ROSS.

„ J. SAYER.

„ T. SMITH.

„ W. STOKER

„ G. WOLSTENHOLME, M.B., J.P.

Committee meets on the 3rd Thursday in each Month, at 2 30 p.m.

# SANITARY WORKS COMMITTEE.

From November, 1907, to November, 1908.

CHAIRMAN :

COUNCILLOR J. PAXTON.

VICE-CHAIRMAN :—COUNCILLOR J. P. HEYES.

THE MAYOR.

THE EX-MAYOR.

ALDERMAN L. BOOTH, J.P.

„ R. BRITTON.

„ J. PHILLIPS, J.P.

COUNCILLOR J. BOTT.

„ W. CHARNOCK.

„ J. CHEETHAM.

„ T. CRITCHLEY.

„ E. DICKINSON.

„ J. LOWE.

„ W. LOWE, J.P.

„ J. PARKINSON, J.P.

The Committee meets on the Fourth Monday in each month, at 3 45  
p.m.



## SANATORIUM SUB-COMMITTEE.

From November, 1907, to November, 1908.

CHAIRMAN :

COUNCILLOR G. WOLSTENHOLME, M.B., J.P.

THE MAYOR.

THE EX-MAYOR.

ALDERMAN J. PHILLIPS.

COUNCILLOR H. BARTON.

„ J. BRADSHAW.

„ M. BENSON, M.D.

„ R. T. FLETCHER.

„ A. E. MATHER.

„ W. STOKER.

The Committee meets the Wednesday before the Third Thursday in each month, at 11 a.m.

---

## INSANITARY HOUSES COMMITTEE.

From November, 1907, to November, 1908.

CHAIRMAN :

COUNCILLOR J. SAYER.

VICE-CHAIRMAN :—COUNCILLOR T. CRITCHLEY.

THE MAYOR.

THE EX-MAYOR.

ALDERMAN R. BRITTON.

„ A. BYWATER.

„ H. SWIFT.

COUNCILLOR W. BLACK.

„ J. BOTT.

„ G. ELLISON.

„ G. WOLSTENHOLME, M.B., J.P.

„ J. PAXTON.

„ E. YATES.

The Committee meets when required.

## MEDICAL OFFICER OF HEALTH'S DEPARTMENT.

---

Medical Officer of Health and Medical Superintendent of Sanatorium :

WILLIAM BERRY, F.R.C.S.I., D.P.H., F.P. & S., Glasgow.

Fellow of the Incorporated Society of Medical Officers of Health,

Past President of North-Western Branch,

Fellow of the Royal Sanitary Institute,

Fellow of the Royal Institute of Public Health, and

Fellow of the Royal Academy of Medicine, Ireland.

Assistant Medical Officer of Health :

J. FOREMAN BERRY, M.B., B.Ch., St. And., L.R.C.P., & S.Ed., &c

Chief Sanitary Inspector :

JOHN SUMNER, Certif. San. Inst., and Assoc. Royal

San. Inst., Cert. City of London Guilds (Plumbing).

Assistant Sanitary Inspectors :

CHARLES H. FRANCE, Certif. San. Inst., and Assoc. Royal San. Inst.

FRED MARTLEW, Certif. San. Inst.

M. CLUNAN, Certif. San. Inst.

Smoke, Shop Hours Act, and Factory and Workshop Act :

FRED G. BISHOP.

Sub-Inspector :

ERNEST KNOWLES, Certif. San. Inst.

Clerk :

JOHN ASHTON.

Enquiry Office :

ERNEST RICHARDSON.

Disinfectors :

JAMES RISLEY.

GEORGE CROSTON.

HENRY PARKINSON.

Master of Sanatorium :

MICHAEL MOORE.

By order of the Local Government Board, dated March 23rd, 1891, Article 18, Section 14, it is prescribed that the Medical Officer of Health shall “prepare an Annual Report, to be  
 “made to the end of December in each year, comprising a  
 “summary of the action taken during the year for preventing  
 “the spread of disease, and an account of the sanitary state  
 “of his district generally at the end of the year. The  
 “report shall also contain an account of the enquiries  
 “which he has made as to conditions injurious to health  
 “existing in his district, and of the proceedings in which  
 “he has taken part, or advised under the Public Health Act,  
 “1875, so far as such proceedings relate to those conditions;  
 “and also an account of the supervision exercised by him  
 “or on his advice, for sanitary purposes over places and  
 “houses that the Sanitary Authorities have power to  
 “regulate, with the nature and results of any proceedings  
 “which may have been so required and taken in respect of  
 “the same during the year. It shall also record the action  
 “taken by him or on his advice, during the year, in regard  
 “to offensive trades, and to factories and workshops. The  
 “report shall also contain tabular statements (on forms to  
 “be supplied by the Local Government Board, or to the  
 “like effect) of the sickness and mortality within the  
 “district, classified according to diseases, ages, and localities.”





## CORPORATION OF WIGAN,

## HEALTH DEPARTMENT,

FEBRUARY 22ND, 1908.

*To the Chairman and Members of the Health  
Committee.*

GENTLEMEN,

It is my privilege as well as pleasure to present you with my Twelfth Annual Report on the Health of your County Borough for the year 1907.

The death-rate is calculated on an estimated population of 90,765, this being taken for July 1st, 1907.

The death-rate for the year is 18·03 per 1,000 of the population, against 17·61 for 1906, showing an increase of ·42, and the birth-rate is 2·63 lower.

The infantile deaths number 163 per 1,000 births, whilst that for England and Wales is 118. Last year we had 160 infantile deaths, and for England and Wales 133.

The total number of deaths from Zymotic Diseases is 236, a rate of 2·60, against 2·61 in 1906. The Diarrhœa-rate, however, is ·66, against 1·55 in the previous year.

We have also an increase in the number of deaths in persons over 60 years of age, namely, 346, against 317 in 1906.

Measles has been prevalent during the year, and epidemic during January, February, March, April, May, June, and July. We have had 1,571 cases, with 75 deaths, against 1,422 cases and 45 deaths in 1906.

The following schools or departments were closed in consequence :—

St. Patrick's Infants Dept.,	from Feb. 8, 1907,	23 days.
National	May 8, 1907,	17 days.
St. John's R. C.	May 9, 1907,	16 days.
St. Michael's	May 28, 1907,	18 days.

Small-pox, I am pleased to say, has been absent. I have had seven cases of Consumption in the Small-pox Doecker for open air treatment, with beneficial results. I would recommend the Small-pox Doecker for treatment in such cases when there is a prospect of improvement.

Scarlet Fever has furnished us during the past year with a fewer number of cases, 175, against 256, and we have had nine deaths, against five in 1906. The death-rate therefore from Scarlet Fever is  $\cdot 099$ , against  $\cdot 055$  in 1906. Enteric Fever has been prevalent, especially in the months of September and December.

I must again express regret at the curtailment of supplies in reference to the Sanatorium for Infectious Diseases. It has been with the greatest difficulty that we have been enabled to keep within the estimate; a less number of cases of Scarlet Fever and Enteric Fever has enabled us to do so.

I tender to my colleagues in the Medical profession (in Wigan and adjoining districts) my thanks for their co-operation. I also tender my thanks to the Staff in the Health Department (especially Mr. Sumner) for their attention to everything which tends to prevent disease.

In conclusion, I must thank the Chairman, Vice-chairman, and Members of this Committee for their kind co-operation in carrying out the delicate duties appertaining to the work of the Health Department, and for appointing Dr. J. Foreman Berry Assistant Medical Officer of Health.

I am, Gentlemen,

Your obedient Servant,

WM. BERRY,

Medical Officer of Health,



PART I.

VITAL STATISTICS.



# REPORT.

## STATISTICAL SUMMARY FOR 1907.

Population estimated July 1st, 1907 ..... 90,765

*Marriages* are not ascertained for the County Borough.

„ Annual rate per 1,000 of population ditto.

*Births* { Males ..... 1383 } Total..... 2,728  
           { Females ..... 1345 }

Annual rate of births per 1,000 of population ..... 30·05

Ditto for England and Wales..... 26·3

Illegitimate births 125, or 1·37 per 1,000 of population, a percentage of ..... 4·5

*Deaths* { Males..... 862 } Total ..... 1,637  
           { Females..... 775 }

Annual rate of mortality ..... 18·03

Ditto in England and Wales..... 15·0

Death rate in 76 great towns ..... 15·4

Ditto 142 smaller ..... 14·5

Ditto Rural England and Wales. 14·7

Excess of registered births over deaths ..... 1,091

Total deaths from zymotic diseases ..... 236

Annual rate of mortality from zymotic diseases.. 2·60

Ditto in England and Wales..... 1·26

Total deaths from diarrhoea..... 60

Annual rate of mortality from diarrhoea ..... ·66

Infantile rate (deaths per 1,000 births), 1907 ... 163

Ditto for England and Wales ..... 118

Deaths of infants under one day old, number ... 49

*Acreage.*—With an acreage of 5,082, and a population estimated at 90,765, we have 17·86 persons per acre.

*Population.*—The population estimated at the middle of the year (June 30, 1907) is 90,765, and this may be taken as fairly correct, in accordance with the number of inhabited houses on July 1st.

*Births.*—The number of births registered during 1907 is 2,728 (males 1,383, females 1,345), the rate per 1,000 of the population being 30·05. The birth rate, compared with 1906 is 2·63 lower. The illegitimate births number 125, or 4·5 per cent.

*The Mortality Rate.*—The deaths for 1907 number 1,637 (males 862, females 775), being an excess of 87 males over females. The rate per 1,000 of the population per annum is 18·03; in 1906, 17·61; thus on a population of 90,765 we have an increase in deaths of 62 over 1906. There is therefore an increase in the death-rate of ·42 per 1,000.

The death rate for each quarter is as follows :—

1907.	All causes.	Zymotics.
1st Quarter .....	18·62	2·31
2nd Quarter .....	20·03	2·79
3rd Quarter .....	13·80	3·18
4th Quarter .....	20·13	2·15

The zymotic rate 2·60, shows a decrease for 1907. The previous year it was 2·61, showing a decrease of ·01. This is due to a decrease in the number of deaths from enteric fever and diarrhœa.

## THE VITAL STATISTICS FOR ENGLAND AND WALES DURING 1907.

### ENGLAND AND WALES.

	1907.	1906.
Birth rate per 1,000 living .....	26·3	27·00
Death rate per 1,000 living .....	15·0	15·4
Seven epidemic diseases per 1,000 living.	1·26	1·73
Infant mortality per 1,000 births .....	118	133



TABLE I.

## WEEKLY RETURN OF BIRTHS AND DEATHS FOR 1907.

1907. WEEK ENDING.			Deaths from all Causes.	Annual Rate per 1,000.	Deaths from Zymotics.	Zymotic Rate.	Births.	Annual Rate per 1,000
January	5	.....	44	25·52	7	4·06	52	30·16
"	12	.....	30	17·39	4	2·31	78	45·21
"	19	.....	33	19·13	4	2·31	56	32·46
"	26	.....	34	19·71	7	4·05	49	28·40
February	2	.....	34	19·71	3	1·73	35	20·28
"	9	.....	47	27·23	5	2·89	66	38·23
"	16	.....	21	12·16	3	1·73	54	31·28
"	23	.....	30	17·37	3	1·73	57	33·00
March	2	.....	31	17·95	4	2·31	59	34·16
"	9	.....	31	17·93	3	1·73	53	30·67
"	16	.....	30	17·36	2	1·15	45	26·04
"	23	.....	26	15·03	3	1·73	56	32·38
"	30	.....	27	15·61	4	2·31	53	30·65
April	6	.....	53	30·65	4	2·31	50	28·91
"	13	.....	30	17·34	7	4·04	63	36·41
"	20	.....	41	23·69	6	3·46	49	28·32
"	27	.....	39	22·54	6	3·46	64	36·99
May	4	.....	27	15·59	2	1·15	60	34·66
"	11	.....	37	21·37	—	—	65	37·55
"	18	.....	26	15·01	6	3·46	46	26·55
"	25	.....	35	20·20	2	1·15	43	24·82
June	1	.....	32	18·47	3	1·73	47	27·13
"	8	.....	36	20·77	8	4·61	55	31·73
"	15	.....	29	16·73	3	1·73	36	20·77
"	22	.....	36	20·77	7	4·03	63	36·35
"	29	.....	30	17·30	9	5·19	52	29·98
July	6	.....	25	14·41	9	5·18	55	31·71
"	13	.....	22	12·68	8	4·61	52	29·97
"	20	.....	18	10·37	4	2·30	46	26·51
"	27	.....	22	12·67	6	3·45	42	24·19
August	3	.....	20	11·52	4	2·30	54	31·10
"	10	.....	21	12·08	7	4·02	44	25·33
"	17	.....	24	13·81	4	2·30	43	24·73
"	24	.....	22	12·65	5	2·87	50	28·76
"	31	.....	29	16·68	4	2·30	56	32·22
September	7	.....	19	10·92	2	1·14	34	19·55
"	14	.....	29	16·67	3	1·72	71	40·82
"	21	.....	29	16·66	7	4·02	46	26·43
"	28	.....	32	18·39	9	5·17	51	29·31
October	5	.....	47	27·01	9	5·17	65	37·35
"	12	.....	41	23·54	12	6·88	47	26·99
"	19	.....	34	19·52	8	4·59	44	25·27
"	26	.....	38	21·82	6	3·44	42	24·12
November	2	.....	34	19·52	1	·57	43	24·69
"	9	.....	35	20·10	1	·57	59	33·88
"	16	.....	40	22·96	1	·57	47	26·98
"	23	.....	21	12·05	—	—	63	36·16
"	30	.....	31	17·78	4	2·29	38	21·80
December	7	.....	29	16·63	1	·57	57	32·70
"	14	.....	35	20·06	2	1·14	62	35·55
"	21	.....	31	17·77	1	·57	55	31·53
"	28	.....	40	22·93	3	1·71	56	32·11

**TABLE II.**

**MONTHLY TABLE OF DEATHS FROM ALL CAUSES  
AND ZYMOTIC DISEASES WITH RATES  
PER 1,000 PER ANNUM FOR 1907.**

MONTH.	No. of Deaths from all Causes.	Annual Rate per 1,000 living.	No. of Deaths from Zymotic Diseases.	Annual Rate per 1,000 living.	Deaths of	
					Infants under 1 yr.	Persons over 60 yrs
January .....	141	20.41	22	3.18	25	35
February .....	132	19.11	14	2.02	27	43
March.....	145	16.77	16	1.84	32	33
April .....	163	23.55	23	3.31	49	28
May .....	125	18.04	10	1.44	35	29
June .....	163	18.80	30	3.45	43	33
July .....	87	12.53	27	3.88	23	17
August .....	116	15.34	24	2.75	40	21
September.....	109	15.66	21	3.01	33	18
October .....	160	22.97	35	5.02	50	29
November .....	161	18.48	7	.80	58	23
December .....	135	19.34	7	.99	31	37
Totals .....	1637	18.03	236	2.60	446	346



TABLE III.

TABLE SHOWING COMPARATIVE STATISTICS BETWEEN WIGAN  
AND OTHER TOWNS DURING 1907.

TOWN.	Popula- tion.	Birth Rate.	Death Rate.	Zymotic Rate.	Infantile Death rate per 1,000 Births.	Respira- tory Death Rate.	Phthisis Death rate
Accrington .....	45,500	22.59	14.57	.83	107	2.85	.83
Bath .....	50,000	17.8	14.3	.76	91	2.48	.92
Birkenhead .....	118,441	31.46	15.44	2.13	110	3.13	1.02
Blackburn .....	134,438	24.9	17.0	1.4	151	3.6	.9
Blackpool .....	58,431	18.09	11.59	.65	—	2.00	.86
Bcotle.....	69,200	31.3	15.7	1.8	—	—	1.1
Bradford .....	290,323	19.7	14.4	0.91	124	2.63	1.14
Burton-on-Trent ...	53,000	24.5	12.45	1.24	94	2.34	1.15
Bury .....	58,901	22.68	15.94	1.27	135	2.80	1.12
Cardiff .....	187,620	25.9	15.0	1.9	131	2.87	1.17
Carlisle .....	49,400	23.8	17.1	1.5	142	2.7	1.03
Coventry .....	87,000	29.5	13.2	.83	102	1.80	1.18
Crewe.....	47,904	26.1	11.18	.79	108	2.29	.5
Derby.....	125,774	25.1	14.2	1.8	120	2.2	.97
Halifax .....	108,500	17.7	15.2	.66	102	2.6	1.13
Hanley .....	67,174	32.3	19.0	2.6	160	3.4	.72
Hastings .....	67,477	16.7	12.6	.40	80	1.12	1.37
Huddersfield.....	94,814	23.17	16.94	.77	97	4.41	1.44
Hull .....	266,762	28.7	16.0	1.5	126	3.0	1.1
Lancaster .....	43,531	23.24	15.09	2.50	143	2.80	1.05
Maidstone .....	34,585	21.8	15.4	1.5	131	2.8	1.2
Middlesbrough.....	101,783	34.22	20.66	2.5	155	5.7	1.4
Oldham .....	141,730	26.5	19.3	1.5	144	4.52	1.65
Plymouth .....	120,000	23.13	15.00	.75	109	2.72	1.25
Reading .....	81,040	22.28	12.13	1.07	90	1.84	1.71
Rochdale .....	88,000	23.82	16.96	1.04	120	3.51	1.28
South Shields .....	113,460	28.9	16.7	1.37	133	2.80	1.56
St. Helens .....	92,476	34.2	18.4	2.99	156	4.02	1.09
Stockport .....	100,986	27.03	19.02	1.76	157	4.30	1.31
West Bromwich ...	69,123	29.9	16.4	2.4	151	—	—
WIGAN.....	90,765	30.05	18.03	2.60	163	4.42	.92
Wolverhampton ...	102,193	26.35	14.46	1.35	131	2.78	.79
York .....	84,730	25.7	15.0	1.13	124	2.44	1.34

TABLE IV.

## DEATH RATE FOR WIGAN DURING THE LAST TEN YEARS.

1898	.....	18.88	} Average for 10 years, 20.21.
1899	.....	21.91	
1900	.....	21.95	
1901	.....	22.30	
1902	.....	20.25	
1903	.....	21.69	
1904	.....	21.49	
1905	.....	18.07	
1906	.....	17.61	
1907	.....	18.03	

*Infantile Mortality.*—The number of deaths of children under one year is 446, or 163 per 1,000 births, and of children over one year and under 5 years 274, or 3.01 per 1,000 of the population.

In regard to this infantile mortality there were 49 deaths in children who did not live more than 24 hours, and if we deduct these there would only be 397 deaths, or 145 per 1,000 births ; with a large birth rate we necessarily have a larger proportion of premature births.

*Senile Mortality.*—The number of deaths of persons of 60 years of age and over is 346, or 3.81 per 1,000 of population.

## NO. OF DEATHS IN DIFFERENT WARDS IN WIGAN, 1907.

<i>Est. Popula- tion.</i>	<i>Ward.</i>	<i>1st Quarter.</i>	<i>2nd Quarter.</i>	<i>3rd Quarter.</i>	<i>4th Quarter.</i>	<i>Totals.</i>
4,929...	1	18	34	27	30	109
5,475...	2	20	27	16	22	85
7,115...	3	17	49	25	44	135
9,246...	4	53	54	31	49	187
4,508...	5	27	29	26	24	106
5,639...	6	21	13	18	20	72
5,120...	7	34	29	25	39	127
12,520...	8	71	73	43	59	246
8,093...	9	29	23	22	34	108
4,027...	10	11	15	11	20	57
4,417...	11	29	15	13	26	83
7,507...	12	37	39	24	36	136
5,951...	13	32	25	14	25	96
6,120...	14	19	26	17	28	90
90,667...	Total .....	418	451	312	456	1637

WIGAN CENSUS, 1901.

WARD.	Separate Families.	HOUSES.				Tenements with less than five rooms.	PERSONS.		Totals
		In-habited.	Uninhabited.				Males.	Females.	
			In Occu- pation..	Not in Occupation.	B'ding.				
No. 1, or St. George Ward ...	959	919	87	17	...	753	2406	2524	4930
No. 2, or Lindsay Ward .....	924	913	22	12	6	592	2310	2472	4782
No. 3, or St. Catharine Ward	1234	1193	20	5	...	863	3169	3435	6604
No. 4, or St. Patrick Ward...	1586	1567	46	10	3	954	4714	4470	9184
No. 5, or St. Thomas Ward...	939	890	42	4	...	703	2394	2451	4845
No. 6, or Poolstock Ward ...	977	950	18	3	4	523	2424	2613	5037
No. 7, or Victoria Ward .....	999	949	33	4	4	688	2440	2586	5026
No. 8, or St. Andrew Ward...	1684	1662	29	14	29	501	4658	4622	9280
No. 9, or Swinley Ward .. ...	1386	1368	46	41	14	453	3224	4043	7267
No. 10, or All Saints Ward...	709	709	327	28	25	360	1811	1925	3736
Canal Boats.....	...	...	...	...	...	...	60	19	79
Wards not stated .....	...	...	...	...	...	...	...	...	...
Totals.....	11388	11120	670	138	85	6390	29610	31160	60770

Percentage of increase in population, England and Wales  
since Census of 1891 ..... 12·15.

The preceding period, 1881-91..... 11·65.

Increase in Wigan ..... 10·46.



## COUNTY BOROUGH OF WIGAN.

STATEMENT OF HOUSES BUILDING, EMPTY, AND INHABITED,  
ON 27TH JULY, 1907.

WARD.	HOUSES.			Estimated Population at 5·465 per Inhabited House
	Building.	Empty.	Inhabited.	
1 St. George.....	3	31	902	
2 Lindsay .....	1	28	1002	
3 St. Catharine .....	4	17	1302	
4 St. Patrick .....	—	49	1692	
5 St. Thomas .....	—	32	825	
6 Poolstock .....	—	28	1032	
7 Victoria .....	—	41	937	
8 St. Andrew .....	16	70	2291	
9 Swinley .....	10	69	1481	
10 All Saints .....	—	30	737	
<b>Total Parliamentary Borough.....</b>	<b>34</b>	<b>395</b>	<b>12201</b>	<b>66,678</b>
11 West Pemberton...	1	22	812	
12 North Pemberton...	5	22	1380	
13 Central Pemberton.	5	8	1094	
14 South Pemberton...	9	23	1125	
<b>Total Pemberton.....</b>	<b>20</b>	<b>75</b>	<b>4411</b>	<b>× 5·44 = 23,995</b>
<b>Total Municipal Borough.....</b>	<b>54</b>	<b>470</b>	<b>16612</b>	<b>90,673</b>

For Pemberton the average per house inhabited at Census 1901 was 5·44.

The figures are taken from the Survey Books of the Wigan Conservative Registration Association, on completion of the Survey on 27th July, 1907, and by permission of Mr. R. Halliwell, J.P., Agent.

LOCAL GOVERNMENT BOARD RETURNS.

TABLE I.—VITAL STATISTICS OF WHOLE DISTRICT DURING 1907 AND PREVIOUS YEARS. NAME OF DISTRICT—WIGAN (County Borough.)

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				Deaths in Public Institutions in District.	Deaths of Non-registered in Public Institutions in District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at all Ages belonging to the District.	
		Number.	* Rate.	Under 1 Year of Age.		At all Ages.					Number.	Rate.*
				Number.	Rate per 1000 Births Registered	Number.	Rate.*					
1	2	3	4	5	6	7	8	9	10	11	12	13
1897	58915	2247	38.58	398	175	1270	21.80	246	106		1387	22.90
1898	59590	2159	35.70	369	170	1182	19.54	225	91		1379	22.30
1899	60165	2148	35.36	422	195	1368	22.63	253	116		1251	20.25
1900	60740	2177	36.00	404	190	1520	25.06	290	133		1359	21.69
1901	60923	2245	36.40	457	203	1537	24.87	280	158		1381	21.49
1902	61827	2311	37.42	366	158	1393	22.58	269	142		1596	18.07
1903	62689	2221	35.47	388	174	1511	24.09	313	152		1575	17.61
1904	64249	2223	34.59	418	188	1528	23.78	301	147			
1905	88306	2918	33.04	476	163	1717	19.44	277	121			
1906	89342	2920	32.68	468	160	1713	19.17	294	138			
Averages for years 1897—1906	66674	2356	35.52	416	177	1473	22.29	274	130			
1907	90765	2728	30.05	446	163	1751	19.29	276	114		1637	18.03

\* Rates in columns 4, 8, and 13 calculated per 1,000 of estimated population.

Area of District in acres (exclusive of area covered by water) 5,082. At Census of 1901 the total population at all ages was 82,428 ; number of inhabited houses, 15,095 ; average number of persons per house 5.4. Institutions within the District receiving sick and infirm persons from outside the District : Royal Albert Edward Infirmary, Union Workhouse, Wigan Sanatorium, and Pemberton Sanatorium. Is the Union Workhouse within the District ? Yes.

TABLE II.—VITAL STATISTICS OF SEPARATE LOCALITIES IN 1907  
AND PREVIOUS YEARS.

Name of District—Wigan County Borough.

YEAR.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.
1897 .....	58915	2247	1270	398
1898 .....	59590	2159	1182	369
1899 .....	60165	2148	1368	422
1900 .....	60740	2177	1520	404
1901 .....	60923	2245	1537	457
1902 .....	61827	2311	1393	366
1903 .....	62689	2221	1359	388
1904 .....	64249	2223	1381	418
1905 .....	88306	2918	1596	476
1906 .....	89342	2920	1575	468
Averages of Years 1897 to 1906 ... }	66674	2356	1418	416
1907 .....	90765	2728	1637	446



TABLE III.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1907.  
Name of District, Wigan County Borough.

Notifiable Disease.	Cases Notified in Whole District.						Cases Removed to Hospital from Each Locality.	
	At all Ages.	At Ages—Years.					H Wigan.	Haigh.
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.	
Diphtheria (including Membranous Croup) ..	66	1	19	28	9	9	—	2
Erysipelas .....	77	1	1	7	9	52	7	—
Scarlet fever.....	175	1	70	88	12	4	—	2
Enteric fever.....	107	—	3	33	37	33	1	6
Puerperal fever .....	8	—	—	—	—	8	—	—
Measles .....	1571	138	967	458	7	1	—	—
Phthisis .....	—	—	—	—	—	—	—	—
Totals .....	2004	141	1060	614	74	107	8	8

Isolation Hospital—Wigan and Pemberton Sanatorium.

Mark (H) the locality in which the hospital is situated.

Mark (W) the locality in which the workhouse is situated.

TABLE IV.—CAUSES OF, AND AGES AT, DEATH DURING YEAR 1907.

Name of District—Wigan (County Borough).

CAUSES OF DEATH.	DEATHS IN OR BELONGING TO WHOLE DISTRICT AT SUBJOINED AGES.							Total Deaths in Public Institutions in District.
	All Ages	Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and up- wards.	
Small-pox .....	—	—	—	—	—	—	—	—
Measles .....	75	24	48	3	—	—	—	—
Scarlet fever.....	9	—	5	4	—	—	—	—
Whooping-cough .....	50	18	30	2	—	—	—	—
Diphtheria and mem- branous croup .....	12	1	6	5	—	—	—	—
Croup.....	2	—	1	1	—	—	—	—
Fever—Enteric .....	22	—	1	2	9	10	—	—
Diarrhœa .....	60	45	13	—	—	1	1	—
Puerperal fever .....	5	—	—	—	1	4	—	—
Erysipelas .....	1	—	—	—	—	1	—	—
Phthisis (Pulmonary Tuberculosis) .....	84	6	6	3	13	55	1	—
Other tubercul'r diseases	38	12	11	9	2	4	—	—
Cancer, malign'nt dis'ase	52	—	1	1	1	43	6	—
Bronchitis .....	169	32	5	3	—	80	49	—
Pneumonia .....	233	70	64	10	9	72	8	—
Premature birth .....	48	48	—	—	—	—	—	—
Heart diseases .....	101	1	1	4	7	52	36	—
Accidents .....	35	2	7	4	3	14	5	—
Suicides .....	3	—	—	—	1	2	—	—
Rheumatism .....	12	—	—	1	4	6	1	—
Convulsions.....	20	15	4	1	—	—	—	—
Wasting .....	45	32	12	1	—	—	—	—
All other causes .....	561	140	59	14	20	192	136	—
All causes .....	1637	446	274	68	70	536	243	—

## STATEMENT OF DEATHS OCCURRING IN WIGAN, BUT NOT BELONGING TO WIGAN

Deaths from Accidents	...	...	...	...	...	...	27
„ Bronchitis	...	...	...	...	...	...	10
„ Cancer	...	...	...	...	...	...	5
„ Heart Affections	...	...	...	...	...	...	3
„ Other Diseases	...	...	...	...	...	...	58
„ Phthisis	...	...	...	...	...	...	4
„ Pneumonia	...	...	...	...	...	...	5
„ Other Tubercular Diseases	...	...	...	...	...	...	1
„ Suicide	...	...	...	...	...	...	1
							114

TABLE V.

BOROUGH OF WIGAN (COUNTY BOROUGH).

## INFANTILE MORTALITY DURING THE YEAR 1907.

Deaths from stated Causes in Weeks and Months under One Year of Age

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 Year.
<i>All Causes ;</i>																	
Certified .....	68	22	16	16	122	42	35	32	31	30	22	31	21	30	24	26	446
Uncertified .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<i>Common Infectious Diseases :</i>																	
Chicken-pox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Measles .....	...	...	...	...	...	...	...	...	...	1	...	4	1	3	7	8	24
Diphtheria (including Membranous Croup)...	...	...	1	...	1	...	...	2	1	1	2	1	3	3	...	2	18
Whooping Cough .....	...	...	...	...	...	3	...	2	1	1	2	1	3	3	...	2	18
<i>Diarrhœal Diseases :</i>																	
Diarrhœa, all forms .....	...	...	...	1	1	2	1	7	5	2	3	6	3	5	6	5	46
Enteritis, Muco-enteritis, Gastro-enteritis...	...	2	2	1	5	1	5	1	2	3	...	1	1	...	...	1	20
Gastritis, Gastro-intestinal Catarrh...	...	...	...	...	...	2	1	1	1	1	...	...	...	...	1	...	7
<i>Wasting Diseases :</i>																	
Premature Birth .....	36	4	1	6	47	...	1	...	...	...	...	...	...	...	...	...	48
Congenital Defects.....	2	1	...	...	3	1	...	...	...	...	...	...	...	...	...	...	4
Injury at Birth .....	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Atrophy, Debility, Marasmus...	8	5	3	...	16	10	6	4	3	5	3	3	1	2	...	1	54
<i>Tuberculous Diseases :</i>																	
Tuberculous Meningitis..	...	...	...	...	...	...	1	1	1	1	1	...	...	...	1	...	6
Tuberculous Peritonitis:	...	...	...	...	...	...	1	...	1	1	1	...	...	...	...	1	5
Tabes Mesenterica...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	2	7
Other Tuberculous Dise's	...	...	...	...	...	...	...	...	1	1	...	1	1	...	2	1	7
<i>Other Causes :</i>																	
Syphilis .....	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Meningitis (not Tuber'l's)	1	...	...	1	2	...	...	1	1	1	2	3	3	1	...	1	15
Convulsions.....	1	1	1	1	4	1	3	2	3	1	...	...	...	...	...	...	14
Bronchitis .....	...	...	1	3	4	4	5	4	4	3	2	...	3	3	...	...	32
Laryngitis .....	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Pneumonia .....	...	1	...	1	2	9	5	5	7	5	5	8	4	8	7	5	70
Suffocation, overlying ...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	2
Other Causes .....	19	8	6	2	35	8	6	4	1	4	3	3	1	3	...	1	69
	68	22	16	16	122	42	35	32	31	30	22	31	21	30	24	26	446

District of Wigan.

Population (estimated to middle of 1907), 90,765.

Births in the year—Legitimate, 2,603.

Illegitimate, 125.

Deaths from all Causes at all Ages, 1,637.



LIST OF STREETS IN WHICH DEATHS FROM THE FOLLOWING DISEASES OCCURRED IN 1907.

[illegible]



Street.	Ward.	Small-pox.	Scarlet.	Enteric.	Typhus.	Diphtheria.	Whoop. Cough.	Measles.	Diarrhoea.	Pulmonary.	Rheumatism.	Cancer.	Others.	Total.	Street.	Ward.	Small-pox.	Scarlet.	Enteric.	Typhus.	Diphtheria.	Whoop. Cough.	Measles.	Diarrhoea.	Pulmonary.	Rheumatism.	Cancer.	Others.	Total.		
Court, Holt St.	14									1				1	Gee Street													1	1		
Court, Thompson Street	14									1				1	Gilroy Street	4									1				1		
Court, Thompson Street	14													1	Grundy's Yard	4								1					1		
erby Terrace	1													1	Greenough's Row	4									2			3	5		
Douglas Terrace	1													3	Gordon Street	4												1	1		
erby Street	2							1						1	Garden Street	4							1		1				2		
Marlington St.	4									2		1	1	4	Green Street	5												1	1		
Marlington St. E.	4						1	1		1	1		2	6	Gerrard Street	6							1						1		
ean Street	4						1						2	3	Granville Street	6							1					10	20		
iving Lane	5							1			1		5	7	Great George St.	7			1				1	1	7		7	12			
obb's Fold	7								1					1	Gidlow Lane	8									2	2	1	2	2		
elph Street	8									2			1	3	Gorman Street	8												1	1		
iggle Street	8									1			2	3	Glebe End St	8									1			1	1		
icconson Cres.	9												1	1	Glassbrook St	8									1			1	2		
icconson Street	9											1	4	5	Grayson's Yard	9									1			1	2		
icconson Terr.	9											1		1	Gibson's Yard	9	1											1	1		
uke Street	9						1						1	2	Gee's Court	10			1						1			1	3		
Douglas Road	9												1	1	Gaskell's Yard,	10												2	2		
Douglas Street	10								1				1	2	New Street	11												1	1		
Morning Street	10												3	3	Gore Street	11												1	1		
icconson's Yd.															Grosvenor St	12													1	2	
Ormskirk Rd.	12								1					1	Gore's Court	12													1	1	
Douglas Street	12									1			1	2	Tunstall Lane	13													1	1	
uke Street	14									1			4	5	Hilton Yard,	1												1	1		
very Street	1												1	1	L. M. Street	1													1	1	
illis Street	2												2	3	Harrison's Sq.,	1							1						1	4	
Elizabeth Street	3									1			1	2	Orchard Street	1										3			1	2	
gerton Street	5									1			1	1	Howard Street	2													1	1	
Eleanor Street	6									1			1	2	Higham's Yard	3													5	12	
ihel Street	6							1						1	Hen Street	3						1							4	4	
Edith Street	7									1				1	Holland Street	3						2							4	4	
Earl Street	12												2	2	Higham Street	4												16	22		
Allen Street	10												1	1	Hardybutts	4			1				3					1	2	2	
Earl Street	12												2	2	Hambleton St.	4													1	1	
Ellesmere Road	13												3	3	Harper Street	4													1	1	
infield Street	13						1	1	1	5		1	8	17	Henry Street	5												2	4	4	
airhurst's Yrd,															Hodson Street	5												1	2	2	
Millgate	1									1				1	Hardman Street	6													1	1	
arrell's Yard,															Howard Yard	7													1	1	
School Street.	1												1	1	Heardman Av'n	8													2	2	
larence Street	3									1			1	2	Hey Street	8													4	6	
arrimond's Yd.	3									2			2	4	Horsefield St.	8													1	1	
Frederick Street	3												1	1	Holt Street	8													2	5	
owden Street	5													1	Hodge's Street	8													1	2	
aggy Lane	5													2	Holme Terrace	9													1	1	
Grith Street	6													1	Hilton Street	9													1	2	
Frog Lane	8							1					2	3	Harrogate Street	10													1	2	
Field Street	8												1	1	Hallgate	10													2	5	
Foster Street	8												1	1	Heaton's Yard,	10														2	1
First Avenue	8									1			3	4	Bridgewater St	12													1	2	
Folly	9												2	2	Hopwood Street	12													1	1	
Freckleton St	9												2	3	Highfield St.	13													2	3	
Foy Street	10												3	3	Holt Street	14													1	1	
Frog Lane	10												2	2	Isabella Street	3													8	13	
Fitzadam Street	10									1			1	2	Ingram Street	8							2		3				1	1	
Factory Street	11												3	3	Jew's Yard,	1													1	1	
Fleet Street	11												3	3	Millgate	1													1	1	
Greenough St.	1									1			2	3	Jockey Terrace	1							1						2	7	
Greenough St.	2		1										1	2	John Street	4						1							1	2	
Greenough Gdns	1								1					1	Johnson Street	4													1	1	
Golborne Street	3							1		1		1	3	6	Johnson's Terr	5													1	1	
Gaskell Street	3						1			1		1	3	6	James Street	5													1	1	
															Jackson's Row	9													1	1	



Street.	Ward.	Small-pox.	Scarlet.	Enteric.	Typhus	Diphtheria.	Whoop. Cough	Measles.	Diarrhoea.	Pulmonary.	Rheumatism.	Cancer.	Other.	Total.	Street.	Ward.	Small-pox.	Scarlet.	Enteric.	Typhus	Diphtheria.	Whoop. Cough.	Measles.	Diarrhoea.	Pulmonary.	Rheumatism.	Cancer.
Jolley's Yard,															Mesnes Street ...	9											
Albert Street.	12			1										1	Willstone Yard.	9							1				
Kay Street .....	1									2			1	3	Market Street...	10									1		
Kendrick Street.	3												1	1	Marsden Street	10							1				
Kirkless Street...	3						2						2	4	Mesnes Park												
Kent Street.....	4									1			2	3	Terrace .....	10											
Kearsley Street.	8												1	1	Major Street ...	11									2		
Kendal Street ...	8									3			2	5	Moss Terrace ...	11											
Kimberley St...	8					1								1	Marsden Street	12											
Kenyon Road...	9									1				1	Marsh Green ...	12			1			1	1	2			
Knowles Ter....	10												1	1	Mitchell Street.	12											
Kildare Street...	12							1					3	4	McGraw's Yard												
Knowies Avenue	14									1				1	Ormskirk Road	12								1			
Lowe Street .....	1							1					1	2	Mabel Street ...	13											
Lower Morris St.	1							1	2	3			2	8	Marsh Street ...	14											
Lime Street .....	1						1	3		6			7	17	Manor Street...	12											
Lamb Street .....	2												1	1	Neville Street...	3											
Lindsay Street..	2												1	1	Newm'n Av'nue	8											
Longshoot.....	2							1	1				1	3	Newark Street ..	8									1		
Linney Street...	3									2		1	2	5	New Lodge .....	9									1		
Lorne Street .....	3							1		2			1	4	New Street .....	11									1		
Leader Street...	3								1	1			2	4	New Row .....	11											
Lowe s Square...	4									1			1	2	Norley Road ...	11					1						
Leigh Street ...	4									1			1	2	Noble Street ...	12									1		
Lynn Street ...	4												1	1	Norfolk Street...	12									1		
Latham's Yard,															Northumberl'nd												
Queen Street.	5														Street.....	14						1	1				
Lyon's Yard,													2	2	Orchard Street..	1								1			
Ironm'ng'r L'ne	5												1	1	Oxford Street...	2						1			1		
Letterewe Street	6														Ormandy's												
Latham's Yard,															Houses .....	6						1					
Mill Street...	6												1	1	Oldfield Street...	6											
Lea Street.....	7						1			3			3	7	Old Fold .....	11								1			
Lyon Street.....	7		1	1					1	5			3	11	Ormskirk Road.	11						1		2			4
Lower St.															"	12			1		1				2		
Stephen Street	8									1			2	3	"	13			1						2	1	2
Lord Street .....	9												1	1	Orrell's 'Yard,												
Leader Street...	11												1	1	Arthur Street	14											
Little Church															Powell Yard,												
Street .....	11									1				1	Church Street	1											
Liptrot Street...	12												1	1	Primrose Hill...	2											
Lady Lane .....	13												1	1	Platt Lane .....	3						1	1	1	3		
Leopold Street.	13												1	1	Peers' Yard,												
Little Lane .....	13												3	3	Bridge Street	5											
" .....	14						1			1			3	5	Prescott's Yard.	4									1		
Millgate .....	1			1						1			2	4	Princess Street	5								3	2		
Marsh Lane.....	1												5	5	Potter's Square.												
Mount Street ...	2						1			2				3	Princess Street	5											
McCormick St...	4									1			2	3	Poolstock .....	6									1	1	1
Mill Yard.....	4												1	1	Pool Street .....	6			1					1	3		
Milk Street.....	5									1				1	Potters Street..	6									2		
Marsh's Court,															Pett Street .....	6									1		
Chapel Lane..	5									1				1	Pitt Street .....	7									1		
Melverley Street	6										1			1	Prescott Street..	8					1				1	1	
Milton Street ...	6									1				1	Penson Street...	9									1		
Miry Lane .....	7									1		2	8	11	Penson Yard,												
Mason Street ...	7									1	1			2	Standishgate.	9											
Miry Lane .....	8									1				2	Powell Street ...	9									1		
Moore's B'ldngs	8												2	2	Park Road .....	10					1						
Moss Street .....	8									2				2	Park Crescent...	10								1			
Margaret Street	8												1	1	Poke Street.....	11									1		
Moorfield Street	8									2				2	Pemberton												
Meadow Street.	8						1							1	Valley .....	13						1					



Street.	Ward.	Small-pox.	Scarlet.	Enteric.	Typhus.	Diphtheria.	Whoop. Cough.	Measles.	Diarrhoea.	Pulmonary.	Rheumatism.	Cancer.	Others.	Total
Parkinson's Yd,														
Warr. Road...	14									1				1
Poolstock Lane	14							1		1				10
Princess Street.	14									1			5	6
Queen Street	5									1	1		7	9
Queen's Hotel														
Yard	7												1	1
Queen Street	13												6	6
Rigby's Yard,														
Scholes	1						1	2		2				5
Russell Street	1									1			3	4
Regent Street	2		1							3	1		3	8
Roscoe Street	4									1				1
Rupert Street	4									2				2
Red Lion Court														
Chapel Lane..	5								1					1
Red Lion Place	5												1	1
Railway Street.	8												1	1
Rainford's Bldgs	9									1			1	2
Richmond Street	10												1	1
Regent Str. et.	14												2	2
Richmond S	14									1			1	2
Scholes	1												1	1
School Lane.....	1							1					1	2
Schofield Place.	1												1	1
School Street	1						1			4			7	12
St. George's														
Terrace, W.L.	1										1		1	1
Swan Terrace...	1							1		1				2
Scholes	2									1			1	2
Seed Street.....	3								1	2			2	5
Scholes	3									1			1	2
Stanley Street...	3						7			2			4	13
Schofield Lane...	3						1			2				3
Swift's Square.														
School Lane...	3									1				1
Schofield Lane...	4						1			1		1	4	7
St. Patrick Street	4						3						1	4
Scholes	4						1	1		1			4	7
Sayer's Yard,														
Scholes.....	4									1				1
Stuart Street	4									4			2	6
Spring Street	4			1			1			1			6	9
Spring Grove	4												1	1
Silver Street.....	4					2	1		3				5	11
Silver Terrace..	4						1			1				2
Shared Street...	4					1								1
St. Thomas St..	5												1	1
Sharpe Street...	7									1			3	4
Snape Street	7												1	1
Swann Street	7									2			2	4
Springfield St...	8									1			2	3
Stopforth Street	8												2	2
Standishgate.....	9								3		1		6	10
Swinley Road	9												1	1
Swinley Street...	9												2	2
Swinley Lane	9												1	1
Shaw Street.....	9									1			2	3
Scarisbrick St...	9									1			2	3
Smithy Yard,														
Wigan Lane...	9												1	1
Springfield St..	9												1	1
St. Ann's Sq...	9							1					1	2
Stirling Street...	9								2				1	3
Shelmerdine St.,	10								1				3	4
Standishgate	10												1	1
Spring Gardens..	10											1	2	4
Shaw's Yard,														
Hallgate	10									1				1
Silver Street.....	11									1			1	2
Smethuist Lane	11									2			1	3
Sarginson Street	12						1			2			5	8
Scot Lane.....	12			1				1	1	2			8	13
Soho Street.....	12							1	1	3			1	6
Stanley Street..	12												1	1
Swift's Square,														
Ormskirk Rd.	12						1						1	2
Sandon Street	13									1				1
Smethurst Street	13												1	1
Stephen's Yard,														
Bill Road.....	13												1	1
School Terrace,														
War. Road...	14									1				1
Turner Street	2							1		1			2	4
Teck Street	4												2	2
Tickle Street	7												1	1
Taylor Street	7									1			1	2
Thickness														
Avenue	8									3			5	8
Third Avenue	8												1	1
Tunstall Lane	13						1			1			3	5
Taylor's Yard,														
Little Lane...	14												1	1
Thompson Street	14									1			1	2
Thorn Street	14												1	1
Turner's Yard,														
War. Road...	14												1	1
Upper Morris St.	1						1	1	1	3			1	7
Union Street	4												1	1
Union Work'se	8									17		5	69	91
Upper Diccons'n														
Street	9												3	4
Vaughan Street.	2												3	3
Vine Street	2												1	1
Vauxhall Road..	4									1			3	4
Victoria Street..	5						1			1			4	6
Vauxhall Road.	4									1			3	4
Victoria Street	5						1			1			4	6
Vere Street	7						1		1	1			1	4
Victoria Street..	12			1						3			4	8
Woods' Square,														
Lime Street...	1						1		1				1	3
Worsley's Yard.	1							1						1
Water Hayes Ter	2									1			1	2
Westminster St.	2												2	2
Windsor Street.	2							1						1
Weston Street...	2												1	1
Whelley	2						1						8	10
Wright Street	2									1				2
Whelley.....	3									1	2		7	10
Westm'relnd St.	3												1	1
William Street..	3									1				1
Well Street	3		1											1
Wellington St..	4												1	1
Worsley's Yard,														
Chapel Street	4												1	1
Warrington Lne	4			1									5	6
Walmesley St...	4												1	1
Wilton Street...	4												1	1
Wallgate	5													3

Street.	Ward.	Small-pox.	Scarlet.	Enteric.	Typhoid.	Diphtheria.	Whoop. Cough.	Measles.	Diarrhoea.	Pulmonary.	Rheumatism.	Cancer.	Other.	Total.
Worthingt's Yd	5	...	...	...	...	...	...	...	...	...	...	...	1	1
Woods Street ...	5	...	...	...	...	...	...	...	...	1	...	...	1	2
Wood Street ...	5	...	...	...	...	...	...	...	...	1	...	...	2	3
Woods' Yard,														
& James Street.	5	...	...	...	...	...	...	...	...	1	...	...	...	1
William Street .	5	...	...	...	...	...	...	...	...	...	...	...	1	1
Wallgate .....	6	...	...	...	...	...	...	...	...	...	...	...	2	2
Walmesley Av.	6	...	...	...	...	...	...	...	...	1	...	...	...	1
Wignall Street.	6	...	...	...	...	...	...	...	...	...	...	1	...	1
Walmer Street..	6	...	...	...	...	...	...	...	1	4	...	...	1	6
Wilcock Street..	7	...	...	2	...	...	...	...	...	...	...	...	2	4
Wallgate .....	7	...	...	...	...	1	...	...	...	...	...	...	2	3
Walker's Yard..	7	...	...	...	...	...	...	...	1	1	...	...	...	2
Waterloo Street	8	...	...	...	...	...	...	...	...	...	...	...	1	1
Whiteside Aven.	8	...	...	...	...	...	...	...	...	...	...	...	2	2
Woodhouse Lne.	8	...	...	...	...	1	...	2	1	5	...	2	8	19
Wrightington St	9	...	...	...	...	...	...	...	...	...	...	...	1	1
Wigan Lane.....	9	...	...	...	...	...	...	...	...	5	...	...	4	9
Warnfr'd Street	9	...	...	...	...	...	...	...	...	...	...	...	1	1
Woods' Yard,														
Duke Street.,	9	...	...	...	...	...	...	1	...	...	...	...	...	1

Street.	Ward.	Small-pox.	Scarlet.	Enteric.	Typhoid.	Diphtheria.	Whoop. Cough.	Measles.	Diarrhoea.	Pulmonary.	Rheumatism.	Cancer.	Other.
Wright's Yard,													
Wigan Lane...	9	...	...	...	...	...	...	...	...	2	...	...	1
Whittaker's Yd.	9	...	...	...	...	...	...	...	...	...	...	...	1
Worsley Terrace	9	...	...	...	...	...	...	...	...	...	...	...	1
Wiend .....	10	...	...	...	...	...	...	...	...	...	...	...	1
Wright's Yard,													
Fleet Street...	11	...	...	...	...	...	...	...	...	...	...	...	2
Wardley Street.	11	...	...	...	...	...	...	...	1	...	...	...	2
White Street ...	11	...	...	...	...	...	...	...	...	...	...	1	1
Woodford Street	11	...	...	...	...	...	...	...	...	...	...	1	2
Worsley Street	11	...	...	...	...	...	...	...	...	...	...	...	1
Warrington Rd.	12	...	...	...	...	1	2	...	...	7	...	1	3
Wenlock Street	12	...	...	...	...	...	...	...	...	...	...	...	4
Westminster St.	12	...	1	...	...	...	...	...	...	1	...	...	1
Wood Street ...	12	...	1	...	...	...	...	...	...	...	...	...	...
Warrington Rd.	14	...	1	...	...	...	1	...	...	4	...	1	7
Yates' Yard,													
Wallace Lane	2	...	...	...	...	...	...	...	...	1	...	...	2
Yates Street.....	7	...	...	...	...	...	...	...	...	1	...	...	3
York Street .....	7	...	...	...	...	...	1	...	1	1	...	...	4
York Street E. .	4	...	...	...	...	...	...	...	...	...	...	...	3

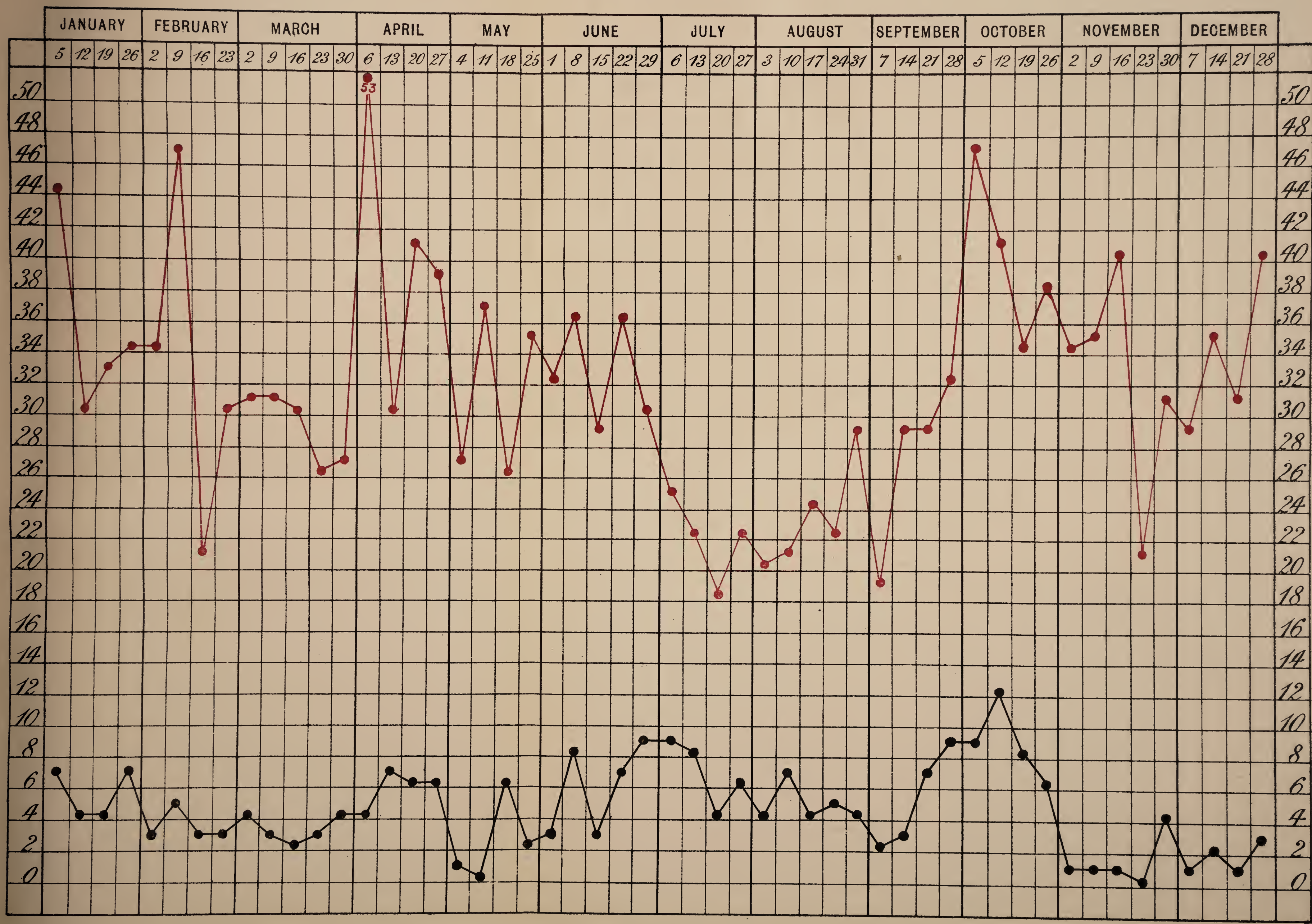


DEATH RETURNS CHART, I.

1907.

All Causes (Red)

Zymotics (Black)







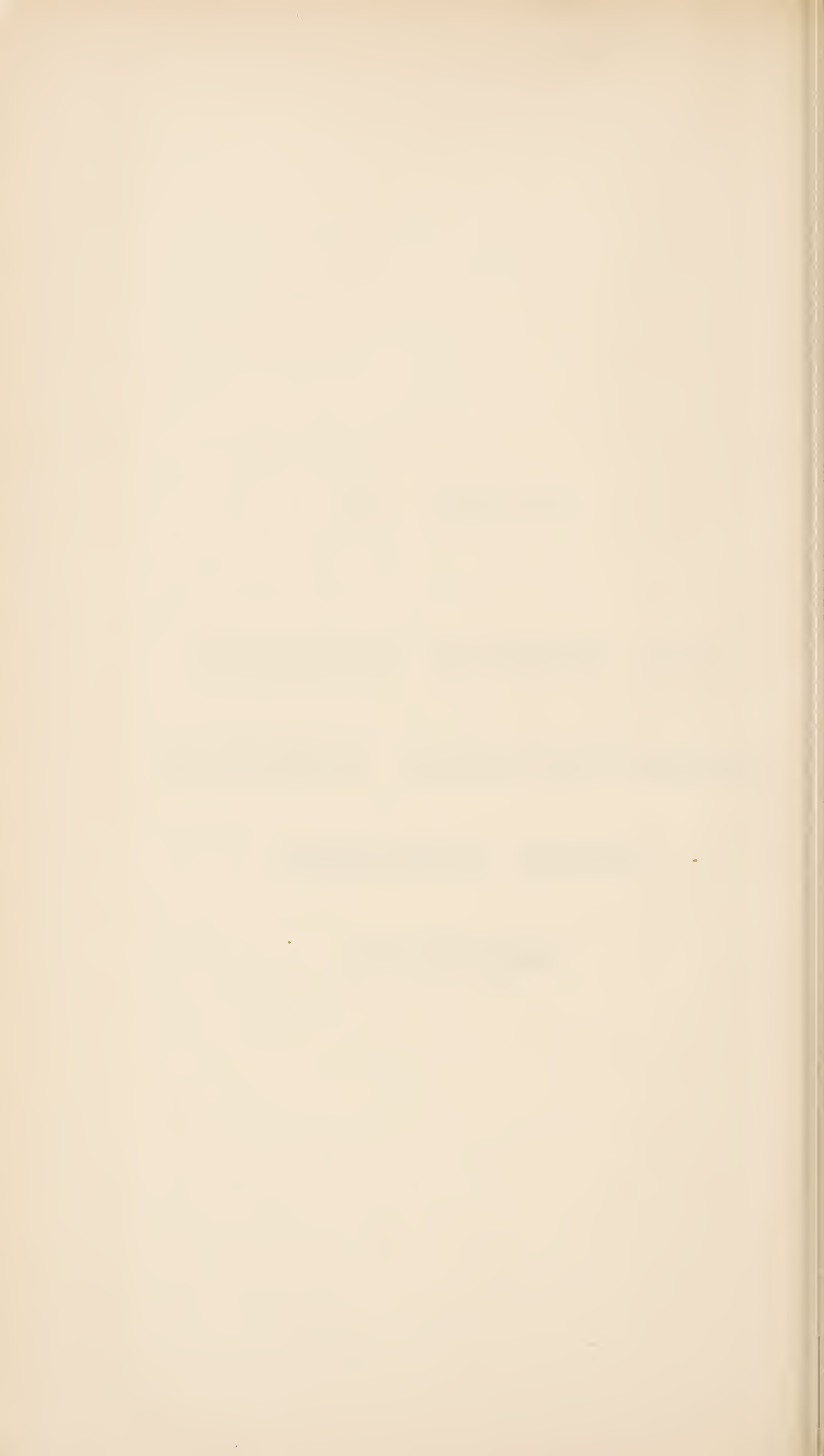
PART II.

**THE ZYMOTIC DISEASES.**

**CONSTITUTIONAL DISEASES.**

**LOCAL DISEASES.**

**INQUESTS.**





# CAUSES OF DEATH.

## THE ZYMOTIC DISEASES.

The Mortality from the principal Zymotic Diseases, namely, Small Pox, Scarlet Fever, Measles, Whooping Cough, Typhus, Enteric Fever, Puerperal Fever, Diphtheria, and Diarrhœa, gives us a rate of 2·60 per 1,000 of the population, against 2·61 in 1906.

The deaths numbered 236.

The Zymotic rate 2·60 is made up as follows :—

DEATHS PER 1,000.

	1907.	1906.
Small Pox.....	...	...
Scarlet Fever .....	·099	·055
Measles .....	·82	·50
Whooping Cough .....	·55	·033
Typhus .....	...	...
Enteric .....	·24	·30
Diphtheria.....	·15	·089
Diarrhœa .....	·66	1·55
Puerperal .....	·055	·044
Erysipelas.....	·011	·033

The Zymotic rate during each of the four quarters was :—

	1907.	1906
1st Quarter .....	2·31	·26
2nd „ .....	2·79	·80
3rd „ .....	3·18	·22
4th „ .....	2·15	·16

## TABLE OF ZYMOTIC DISEASES.

	Notified.	Died.	Case Mortality per cent.
Small Pox .....	...	...	...
Scarlet Fever .....	175	9	5·14
Enteric Fever .....	107	22	20·56
Diphtheria.....	66	14	21·21
Measles .....	1571	75	4·77
Whooping Cough.....	...	50	...
Diarrhœa .....	...	60	...
Puerperal Fever .....	8	5	62·50
Erysipelas .....	77	1	1·29

## DEATH RATES, 1907.

Disease.	No. of Deaths.	Rate.
Small Pox .....	...	...
Measles .....	75	·82
Scarlet Fever .....	9	·099
Diphtheria and Croup .....	14	·15
Whooping Cough .....	50	·55
Enteric Fever .....	22	·24
Erysipelas .....	1	·011
Septicæmia .....	...	...
Puerperal Fever .....	5	·055
Diarrhoea .....	60	·66
Phthisis .....	84	·92
Other Tubercular Diseases .....	38	·41
Bronchial Diseases .....	169	1·86
Pulmonary Diseases .....	233	2·56
Wasting Diseases of Infants .....	45	·49
Convulsive „ „	20	·22
Cancer .....	52	·57
Rheumatism .....	12	·13
Diseases of Heart .....	101	1·11
Other Diseases .....	647	7·12
Total .....	1637	18·03

Number of notifications compared with other years :—

Disease.	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Small Pox .....	33	0	0	0	0	0	4	66	2	3	0	0
Typhus .....	20	1	0	0	0	0	0	0	0	0	0	0
Scarlet .....	151	191	420	245	484	264	557	362	191	325	256	175
Enteric .....	101	64	93	173	104	71	76	51	56	133	138	107
Continued .....	2	0	0	0	0	0	0	0	0	0	0	0
Diphtheria .....	10	23	12	13	20	49	58	38	9	49	49	66
Puerperal .....	7	7	4	4	4	8	10	5	8	16	9	8
Cholera .....	0	1	0	0	0	0	0	0	0	0	0	0
Erysipelas .....	0	0	0	0	39	65	65	51	47	92	86	77
Mem. Croup ...	0	0	0	0	0	0	2	0	0	0	0	0
Total ...	324	287	529	435	651	457	772	573	313	618	538	433

## Analysis of Notifications :—

1907.	Jan.	Feb.	Mar.	Apl.	May	Jun	July	Aug	Sep.	Oct.	Nov	Dec.	T'tl
Small Pox...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet .....	21	19	23	20	24	13	7	8	6	10	13	11	175
Typhus .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric .....	11	5	8	7	7	7	7	10	14	7	10	14	107
Continued...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria..	1	8	12	5	...	3	5	...	3	14	12	3	66
Puerperal...	2	2	...	...	2	...	...	...	...	...	...	2	8
Erysipelas..	8	9	8	9	4	5	5	4	6	10	3	6	77
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Total .....	43	43	51	41	37	28	24	22	29	41	38	36	433

# SMALL POX.

I am pleased to note that we have had no cases notified, but you will see by the list of towns that it is not absent from England.

I mention this to show that there is a necessity for our Doecker Hospital being ready and properly equipped.

## VACCINATION RETURNS, 1906—1907.

The following Vaccination Returns have been supplied to me by the Vaccination Officer, Mr. R. Halliwell, J.P. :—

	January to June, 1907.	The whole of 1906.
Births Registered .....	1,008	2,187
Successfully Vaccinated ....	811	17,95
Insusceptible .....	—	2
Exemptions, Section 2, 1899.	15	31
Died Unvaccinated .....	96	247
Postponed by Certificates....	20	11
Left Town and reported to other Districts.....	6	13
Remainder Cannot Trace ..	23	30
Refusals and not Accounted for	37	58

Total Number of Successful Vaccinations, all ages, 1905 ..	1868
„                „                „       1906 ..	1801
„                „                „       1907 ..	1784
Deaths of Infants under 12 months in 1902 .....	368
„                „                1903 .....	399
„                „                1904 .....	405
„                „                1905 .....	385
„                „                1906 .....	328
„                „                1907 .....	325



# LIST OF TOWNS IN WHICH SMALL-POX HAVE OCCURRED DURING THE YEAR 1907.

<i>Date.</i>	<i>Town.</i>	<i>No. of Cases.</i>	<i>Date.</i>	<i>Town.</i>	<i>No. of Cases.</i>
Jan. 5—	Ashton-under-Lyne .....	3	March 16—	Rochdale .....	
	Sheffield .....	1	April 13—	West Ham .....	
12—	Devonport .....	1		Devonport .....	
	Kingston-upon-Hull .....	8	20—	Plymouth .....	
	Newport (Mon.) .....	4		Darwen .....	
19—	Liverpool .....	5	27—	Southampton .....	
	Ashton-under-Lyne .....	2		Devonport .....	
	Kingston-upon-Hull .....	2		Liverpool .....	
	Newport .....	1	May 4—	Blackburn .....	
	Cardiff .....	3		Kingston-upon-Hull .....	
26—	Devonport .....	1	11—	Southampton .....	
	Liverpool .....	1		Plymouth .....	
	Ashton-under-Lyne .....	1		Kingston-upon-Hull .....	
Feb. 2—	Southampton .....	1		Cardiff .....	
	Bristol .....	1	18—	Devonport .....	
	Liverpool .....	1	25—	Southampton .....	
	Cardiff .....	2		Wood Green .....	
9—	Bristol .....	2	June 1—	Southampton .....	
	Manchester .....	1		Devonport .....	
	Cardiff .....	4	8—	Southampton .....	
16—	Devonport .....	1	22—	Manchester .....	
	Bristol .....	1	July 6—	Liverpool .....	
	Waterloo-with-Seaforth ..	1	13—	Stockport .....	
	Darlington .....	1		Salford .....	
23—	Manchester .....	1	20—	Salford .....	
	Ashton-under-Lyne .....	2		Blackburn .....	
	Kingston-upon-Hull .....	2	27—	Salford .....	
	Newcastle-upon-Tyne ....	1		Sunderland .....	
	Cardiff .....	2		Pontypridd .....	
March 2—	Bristol .....	1	Aug. 3—	Salford .....	
	Cardiff .....	2	17—	Birkenhead .....	
	Aberdare .....	1	31—	Gravesend .....	
9—	Devonport .....	1	Sept. 14—	Gravesend .....	
	Cardiff .....	2	Oct. 19—	Rotherham .....	
	Aberdare .....	2	Nov. 16—	Liverpool .....	
16—	Manchester .....	2			

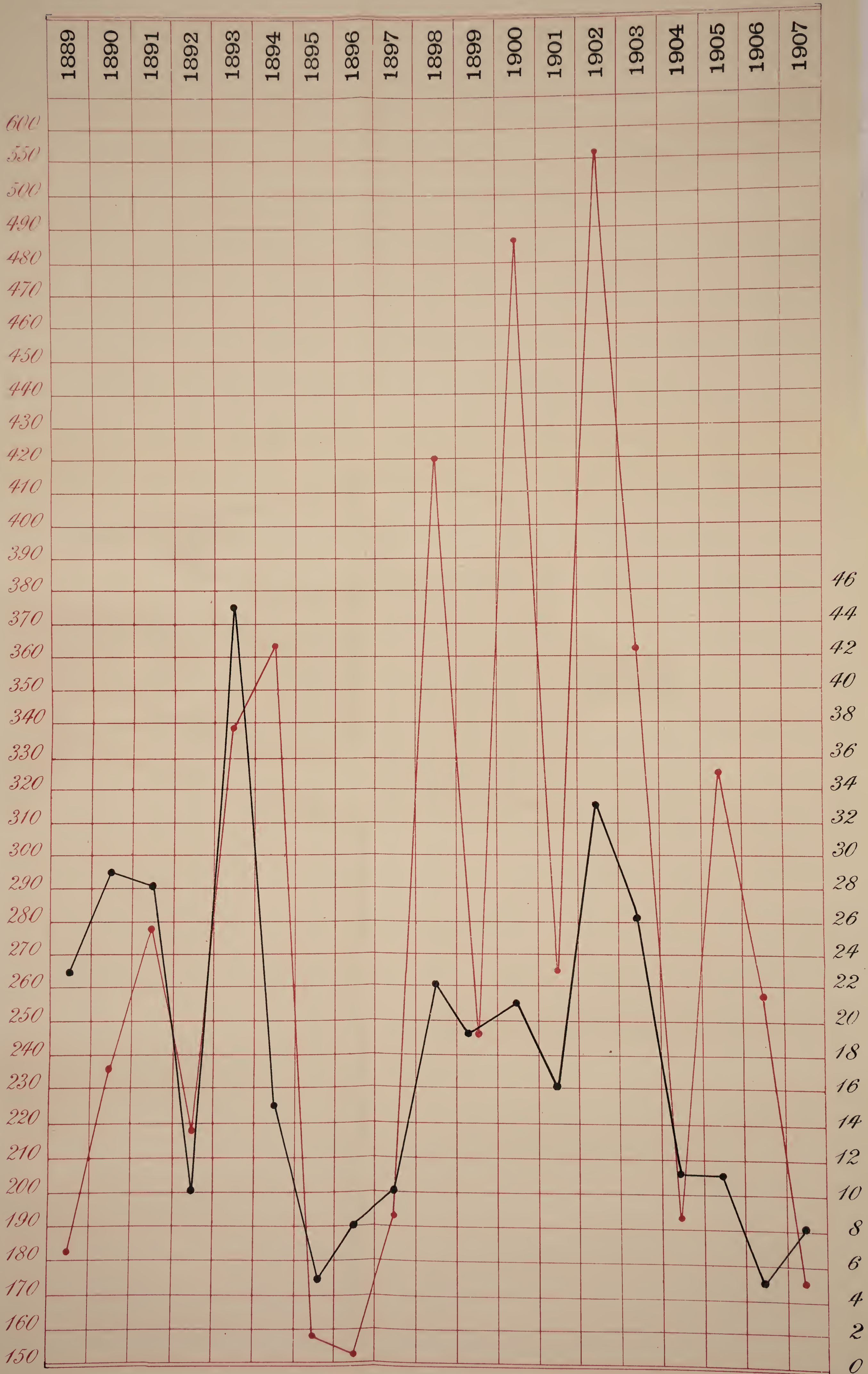




# SCARLET FEVER.

CHART:—Cases notified in red ●

Deaths in Black ●





## SCARLET FEVER.

Number of Notifications..... 175

Number of Deaths ..... 9

Death-rate per 1,000 of population ..... ·099

The number of notifications of this disease is for 1907, 175, against 256 in 1906 ; and 9 deaths, against 5 in 1906.

	Notifications.	Removed to Sanatorium.	Deaths.
January .....	21	11	1
February .....	19	10	..
March .....	23	11	1
April.....	20	13	3
May .....	24	9	..
June .....	13	3	1
July .....	7	6	..
August .....	8	4	1
September .....	6	3	..
October .....	10	7	1
November .....	13	9	..
December .....	11	7	1
Total.....	175	93	9

The percentage of removals to Sanatorium has been 53·14, against 49·21 in 1906, and 63·69 in 1905.

The number of return cases during the year was 3 and the causation was difficult to define. In some cases it appeared that the discharged patient got a coryza or cold, and thus infected the other child. We have had 9 deaths amongst those notified, 5 occurred in hospital, and these were severe cases when sent in ; this equals 5 in 53·14 per cent. of cases removed, and the remaining four cases were in the remaining 46·86 per cent. left at home, so we may take it that the fatality amongst those cases left to be nursed in better houses, with parental care and nursing, gives us a death-rate, per cent., of 4·87, against 5·37 in hospital.

## SCARLET FEVER.—RETURN CASES, 1907.

---

1.—10, CORONATION STREET.—First case was notified, and removed to Sanatorium on December 4th, 1906; returned home on January 25th, 1907.—Second case commenced on February 4th, 1907; was notified, and removed to Sanatorium on February 7th, 1907.

---

2.—3, HODSON STREET.—First case was notified, and removed to Sanatorium on January 17th, 1907; returned home on March 1st, 1907.—Second and third cases commenced on March 4th, 1907; were notified, and removed to Sanatorium on March 6th, 1907.

---

3.—6, HARROGATE STREET.—Second case was notified, and removed to Sanatorium on August 12th, 1907; returned home on October 1st, 1907.—Third case commenced October 7th, 1907, was notified, and removed to Sanatorium October 9th, 1907.



## BOROUGH OF WIGAN.

Notification of Disease adopted March, 1839. Hospital  
opened 1891.

**SCARLET FEVER.**

Year.	Estim. Popula- tion.	Cases Notified.	Under Five Years.	Deaths.	Cases in Hospital.	Attacks per 1,000.	Deaths per 1,000.	Rem v'ls Per cent. per Annum.
1889	53916	182	76	23	15	3.37	.42	8.24
1890	54440	235	163	29	83	4.31	.42	35.31
1891	55084	278	198	28	150	6.86	.50	39.68
1892	56040	218	117	10	79	3.89	.17	36.69
1893	57483	336	211	45	183	5.84	.78	54.49
1894	58529	361	215	15	200	6.16	.25	55.40
1895	59469	157	84	5	92	2.64	.08	58.59
1896	60235	151	83	8	43	2.50	.13	28.47
1897	61202	191	84	10	95	3.12	.16	49.74
1898	61697	420	220	22	189	6.80	.35	45.00
1899	62630	245	129	19	142	3.91	.30	57.95
1900	63440	485	159	21	211	7.63	.33	42.59
1901	60923	264	92	16	155	4.00	.26	58.70
1902	61827	557	190	33	246	9.00	.53	44.16
1903	62689	362	119	26	205	5.77	.41	56.63
1904	64249	191	88	11	130	2.97	.17	68.06
1905	88306	325	131	11	207	3.68	.12	63.69
1906	89342	256	96	5	126	2.87	.055	49.21
1907	90765	175	70	9	93	1.92	.099	53.14

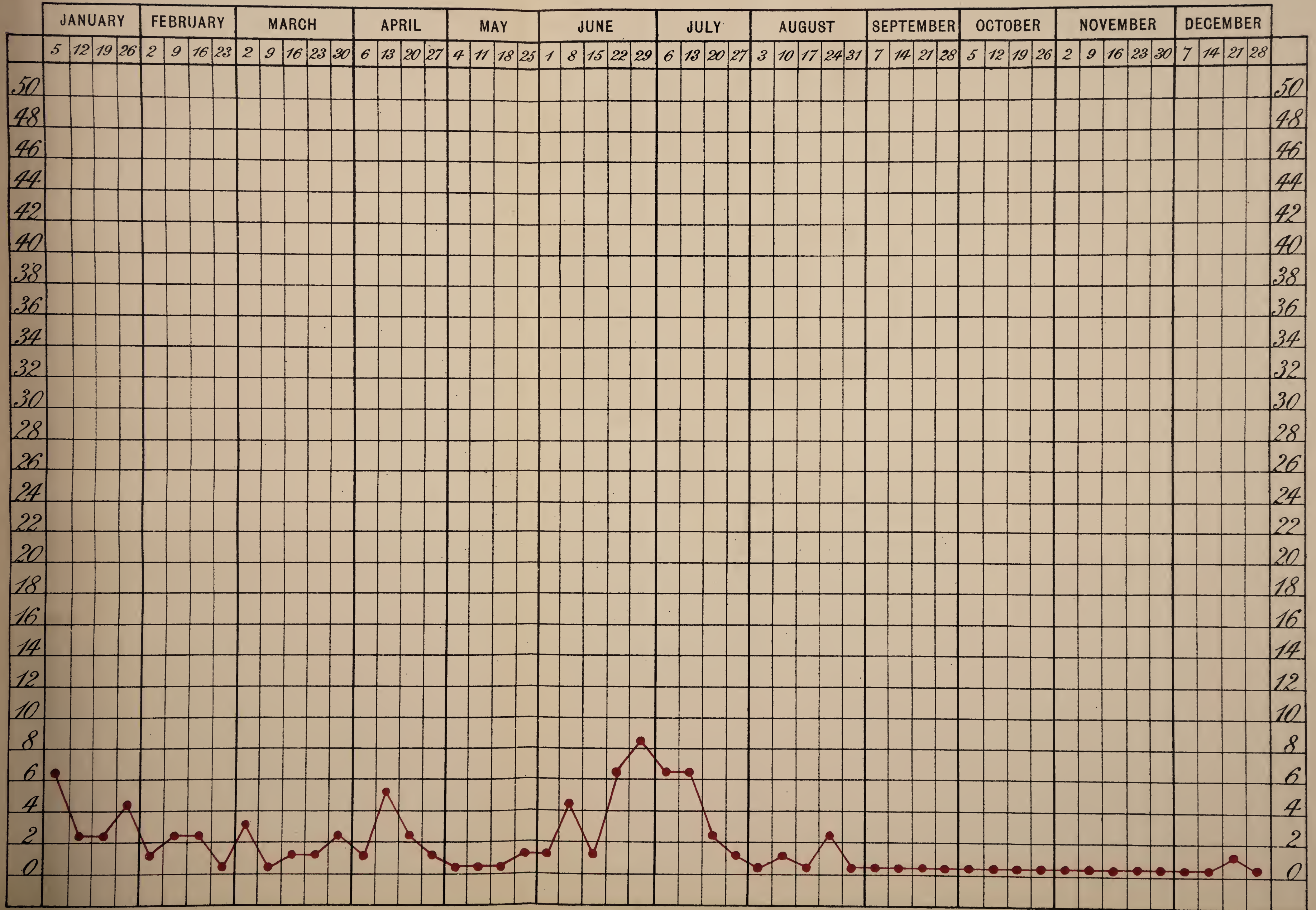




## DEATH RETURNS CHART, 2.

1907.

## Measles (Red)







## MEASLES.

The total number of cases notified for 1907 was 1,571, against 1,422 cases in 1906. Of these 675 were notified by medical men, and 896, the remainder discovered by the inspectors when inquiring into the notified cases.

The deaths numbered 75, or a rate of  $\cdot 82$  per 1,000 of the population, or a percentage mortality of 4.77 against 3.16 in my last report, and 5.41 per cent. in 1905. This shows that in epidemic cycles the percentage of deaths varies according to the period of the year.

The following is a list of voluntary notifications and other cases discovered in consequence :—

### VOLUNTARY NOTIFICATIONS OF MEASLES IN 1907.

	Notifications.	Deaths.
January .....	218	15
February .....	228	7
March .....	268	4
April.....	125	9
May .....	254	3
June .....	301	20
July .....	137	13
August .....	20	3
September .....	7	—
October .....	9	—
November .....	1	—
December .....	3	1
	1571	75

## AGE INCIDENCE.

1906.	Under 1 year.	1-5 years	5-15 years.	15-25 years.	25-65 years.	Total.
January .....	19	150	48	1	—	218
February .....	16	113	98	1	—	228
March .....	28	131	58	1	—	268
April .....	13	88	22	2	—	125
May .....	17	145	90	2	—	254
June .....	25	167	108	—	1	301
July .....	17	94	26	—	—	137
August .....	1	13	6	—	—	20
September .....	1	6	—	—	—	7
October .....	1	7	1	—	—	9
November .....	—	—	1	—	—	1
December .....	—	3	—	—	—	3
Total .....	138	967	458	7	1	1571

Voluntary notification of Measles by medical men ceased in May. A few schools were closed in consequence of an epidemic. A list of the schools are mentioned in my introduction to this report.

## WHOOPIING COUGH.

The number of deaths from Whooping Cough is 50, against 3 in 1906, and 15 in 1905. The number is shown in the following table :—

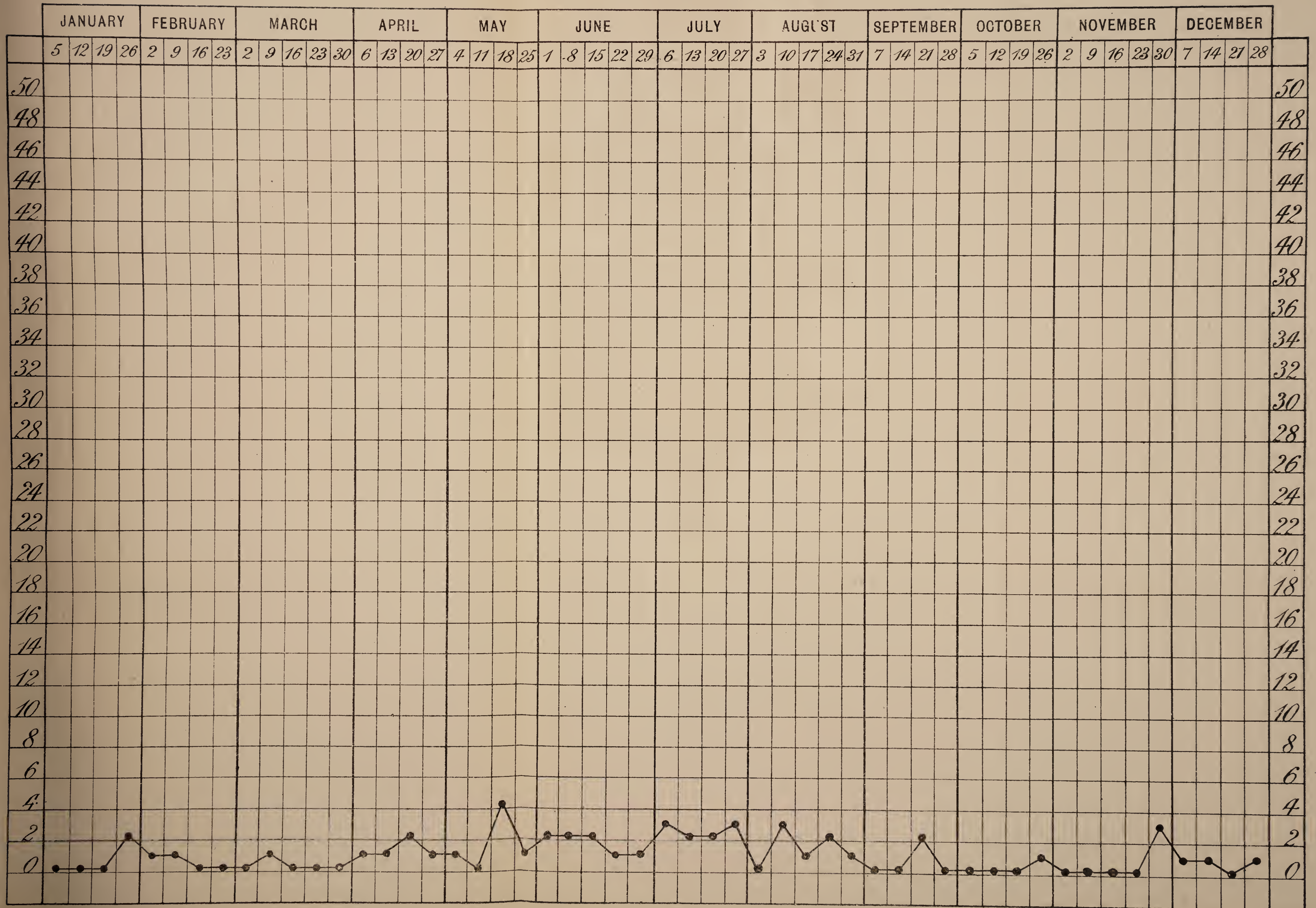
	Deaths in 1907.	Deaths in 1906.
January .....	3	0
February .....	1	0
March .....	1	0
April .....	6	0
May .....	7	0
June .....	7	0
July .....	9	0
August .....	7	1
September .....	2	0
October .....	1	0
November .....	3	0
December .....	3	2
Total .....	50	3



### DEATH RETURNS CHART, 3.

**1907.**

## Whooping Cough (Black)







The deaths were more in 1907 by 47, it is a very dangerous disease owing to the lung affections which supervene, and is highly infectious.

## TYPHUS FEVER.

I am pleased to say we have had no notifications of this disease during the year.

## ENTERIC FEVER.

Number of Notifications	...	...	107
Number of Deaths	...	...	22
Mortality per 1,000 of population	...	...	·24
Removed to Sanatorium	...	...	78

We have for 1907, 107 notifications, against 138 in 1906, and 133 in 1905. A few of the cases removed to the Sanatorium turned out to be cases of other febrile diseases.

The number of deaths were 22, or 20·56 per cent. of the cases notified, against a rate of 19·56 per cent. in 1906, and 27·06 per cent. in 1905.

	Removed to Sanatorium.
January .....	8
February .....	3
March .....	5
April .....	6
May .....	5
June .....	5
July .....	5
August .....	10
September .....	11
October .....	5
November .....	5
December .....	10
	<hr/>
	78
	<hr/>



In the Thompson Yates Laboratory, Liverpool, we have had 2 specimens of blood examined, with the following results :—

Positive Reaction.....	1
Negative .....	1

The mortality rate is also great, and this has been due to the severity of the disease. We have 22 deaths in 107 cases, a rate of 20·56 per cent., which is about the usual percentage in Enteric cases.

I here give the weekly number of Notifications from January 5th to December 28th.

## WEEKLY NOTIFICATIONS FOR 1907.

January 12th	3	July 13th	2
„ 19th	5	„ 20th	1
„ 26th	3	„ 27th	1
February 2nd	2	August 3rd	3
„ 9th	2	„ 10th	3
„ 16th	2	„ 17th	1
March 2nd	1	„ 24th	2
„ 16th	3	„ 31st	4
„ 23rd	4	September 7th	5
„ 30th	1	„ 14th	1
April 6th	1	„ 21st	3
„ 13th	3	„ 28th	4
„ 20th	1	October 5th	1
„ 27th	2	„ 12th	4
May 4th	1	„ 19th	2
„ 11th	2	„ 26th	1
„ 25th	1	November 9th	4
June 1st	3	„ 16th	3
„ 15th	1	„ 23rd	1
„ 22nd	5	„ 30th	2
„ 29th	1	December 7th	2
		„ 14th	5
		„ 21st	5
		„ 28th	2

## ENTERIC FEVER

1907.	Notification.		Deaths.	
	(1907.)	(1906.)	(1907.)	(1906.)
January	11	9	1	1
February	5	4	2	—
March	8	6	2	2
April	7	13	5	—
May	7	9	1	2
June	7	9	1	2
July	7	4	—	6
August	10	8	4	1
September	14	17	—	2
October	7	42	4	3
November	10	8	1	4
December	14	9	1	4
Total	107	138	22	27

## INCIDENCE OF ENTERIC FEVER FOR TWELVE YEARS.

Year.	Notified Cases.	Deaths from Enteric.	Enteric Fever rate per 1,000.
1896	101	14	.23
1897	63	10	.16
1898	92	17	.27
1899	174	25	.40
1900	104	19	.29
1901	71	12	.19
1902	76	14	.22
1903	51	11	.17
1904	56	16	.24
1905	133	36	.40
1906	138	27	.30
1907	107	22	.24

The age incidence shows the greatest number of cases have occurred in persons over 30 years, and the next larger in cases from 15—19.

## AGE INCIDENCE.

## YEARS.

1—4	5—9	10—14	15—19	20—24	25—29	Over 30
3	21	12	22	14	11	24

Total Cases, 107.

Pemberton district has again in proportion to population given us a greater number of cases ; this, I think, is accounted for by the large number of privy middens, defective drainage, and unpaved or badly paved yards.

Houses in which cases have occurred with :—

Privy Middens.	Pails.	Waste Water Closets.	Water Closets.	From Union Workhouse.
41	46	8	10	2

Number of privy middens in Wigan	...	9
„	„ Pemberton	... 1732
„	ashpits	„ ... 81
„	cesspools	„ ... 8
„	„ in Wigan	... 18
„	ashpits	„ ... 43



## STREET LIST OF DEATHS FROM ENTERIC FEVER.

<i>Wigan.</i>		<i>Pemberton.</i>	
Birkett Bank.....	1	Alfred Street .....	1
Burlington Street .....	1	Billinge Road .....	1
Caunce Street .....	1	Jolley's Yd., Albert Street	1
Chapel Lane .....	1	Marsh Green .....	1
Gee's Court, Harrogate St..	1	Ormskirk Road .....	2
Great George Street .....	1	Scot Lane .....	1
Hardybutts .....	1	Victoria Street .....	1
Lyon Street .....	1		
Millgate .....	1		
Pool Street .....	1		
Spring Street .....	1		
Warrington Lane .....	1		
Wilcock Street .....	2		
	<hr/> 14		<hr/> 8
Estimated Population for Year ending 1907, 67,195.		Estimated Population for Year ending 1907, 23,847.	

## ENTERIC FEVER.

Cases in Houses with Insanitary Conditions and Surroundings .. .. .	24
Cases in Houses with Other Defects .. .. .	19
„ „ where no Defects were found .. .. .	62
„ that Occurred in Union Workhouse .. .. .	2
Total .....	<hr/> 107

LIST OF STREETS IN WIGAN WHERE CASES OF ENTERIC FEVER HAVE  
OCCURRED.

1907 1906			1907 1906		
Ashton's Yd., Duke Street.	1	—	Linney Street .....	1	—
Baker Street .....	1	—	Lymn Street .....	1	..
Birkett Bank .....	1	1	Lyon Street .....	1	—
Burlington Street .....	1	—	Melverley Street .....	1	—
Canal Bank, Pottery Bridge.	1	—	Millgate .....	1	—
Cambridge Street .....	1	—	Platt Lane .....	3	4
Caunce Street .....	4	3	Pool Street .....	1	—
Chapel Lane .....	3	2	Prescott Street .....	1	—
Cheltenham Street .....	1	—	Ormandy's Houses ....	1	—
Coronation Street .....	2	1	Rylands Street .....	1	1
Delph Street .....	1	—	Schofield Lane .....	1	—
Diggle Street .....	1	—	Shelmerdine Street ....	1	—
Elizabeth Street .....	1	—	Silver Street .....	1	—
Gee's Court, Harrogate St...	1	—	Spring Street .....	2	—
Gidlow Lane .....	4	1	Stanley Street .....	2	—
Golborne Street .....	2	—	Swann Street.....	1	—
Greenough Street .....	2	—	Teck Street .....	1	—
Great George Street .....	1	—	Wallgate .....	1	1
Hardybutts .....	1	1	Warrington Lane .....	2	3
Holland Street .....	1	—	Wilcock Street .....	2	1
Layland Street .....	5	—	Union Workhouse ....	2	1

LIST OF STREETS IN PEMBERTON WHERE CASES OF ENTERIC FEVER HAVE  
OCCURRED.

1907 1906			1907 1906		
Albert Street .....	3	12	Northumberland Street..	2	2
Alfred Street .....	2	1	Ormskirk Road .....	2	4
Bentinck Street .....	1	1	Poolstock Lane .....	4	1
Billinge Road .....	1	—	Preston's Yd., Albert St.	1	—
Ellesmere Road .....	2	—	Scot Lane .....	3	3
Enfield Street .....	1	—	Soho Street .....	2	1
Fleet Street .....	1	—	Sydney Street .....	1	—
Jolley's Yd., Albert Street.	1	—	Turner's Yd. Warrington Road .....	1	—
Marsh Green .....	1	—	Victoria Street .....	1	—
Marsh Street .....	1	—	Warrington Road ....	7	6
Mitchell Street .....	1	1	Wilde's Cottages .....	1	—
Monk's Yd., Warrington Rd.	2	—	Wilshaw Street .....	1	—

## REPORT ON ENTERIC FEVER CASES FOR 1907.

1. Notified January 10th, 1907, G. B., female, aged 17 years, 31, Wilcock Street. Case commenced December 28th, 1906, removed to Sanatorium January 10th, 1907. 2 living and 3 sleeping rooms, occupied by 3 adults and 1 child. Patient engaged in domestic duties at home. Surroundings, yard flagged and tiled, drains trapped, water closet. Milk purchased from Jones.

2. Notified January 14, 1907, H. L., male, aged 16 years, 80, Prescott Street. Case commenced January 2nd, 1907, removed to Sanatorium January 14th, 1907. 2 living and 2 sleeping rooms, occupied by 3 adults and 4 children. Patient works at Lamb and Moore's Colliery. 1 child attends National School. Surroundings, yard flagged, drains trapped, pail closet. Milk purchased from various persons.

3. Notified January 16th, 1907, A. K., male, aged 26 years, 27, Platt Lane. Case commenced January 4th, 1907, isolated at home. 2 living and 3 sleeping rooms, occupied by 6 adults. Patient is a grocer, and assists his father at 27, Platt Lane. Surroundings, yard flagged, drains trapped, pail closet. Damp and defective bedroom walls. Milk purchased from Fairclough's.

4. Notified January 17th, 1907, F. P., female, aged 10 years, 48, Warrington Lane. Case commenced January 11th, 1907, removed to Sanatorium January 17th, 1907.

5. Notified January 17th, 1907, A. P., male, aged 9 years, 48, Warrington Lane. Case commenced Jan. 12th, 1907, removed to Sanatorium January 17th, 1907. Cases attend New Jerusalem School. Two previous cases were removed from this house on December 28th, 1906. 2 living and 3 sleeping rooms, occupied by 3 adults and 4 children. Surroundings, yard flagged, drains trapped, waste water closet. Milk purchased from Thomas. 3rd and 4th cases.

6. Notified January 18th, 1907, G. L., male, aged 28 years, 1 Court, 1, Marsh Street, Pemberton. Case commenced January 7th, 1907, removed to Sanatorium



January 18th, 1907. 1 living and 2 sleeping rooms, occupied by 4 adults and 2 children. Patient is a collier at Pearson and Knowles' Collieries. One child attends Worsley Mesnes School. Surroundings, yard flagged, drains trapped, dry ashpit, water closet. Back to back house. Milk purchased from Gore's.

7. Notified January 22nd, 1907, J. H. M., male, aged 7 years, 61, Poolstock Lane, Pemberton. Case commenced December 27th, 1907, isolated at home.

8. Notified January 22nd, 1907, L. M., male, aged 10 years, 61, Poolstock Lane, Pemberton. Case commenced January 15th, 1907, isolated at home. 2 living and two sleeping rooms, occupied by 2 adults and 4 children. Patients attend Worsley Mesnes School. Another child at this house suffered from a similar complaint a short time before these cases commenced. Surroundings, yard part flagged, drains trapped, privy midden. Milk from Holland's.

9. Notified January 23rd, 1907, B. McL., female, aged 7 years, 29, Cambridge Street. Case commenced January 9th, 1907, removed to Sanatorium January 23rd, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 2 children. Patient attends St. Patrick's School. Surroundings, yard unpaved, drains trapped, pail closet. Milk purchased from Plover's.

10. Notified January 29th, 1907, J. W., male, aged 7 years, 1, Jolley's Yard, Albert Street, Pemberton. Case commenced January 20th, 1907, removed to Sanatorium January 29th, 1907. 1 living and two sleeping rooms, occupied by 2 adults and 6 children. Patient and three other children attend St. Cuthbert's School. Surroundings, yard flagged, drains trapped, privy. Back to back houses. Milk purchased from various persons.

11. Notified January 29th, 1907, J. E. T., male, aged 17 years, 187, Gidlow Lane. Case commenced January 14th, 1907, removed to Sanatorium January 29th, 1907. 2 living and 3 sleeping rooms, occupied by 4 adults and 1 child. Patient is a draper's assistant at the Co-operative Stores. Surroundings, yard flagged, drains

trapped, waste water closet. Milk purchased from Marks and Schofield.

12. Notified February 5th, 1907, E. A., male, aged 5 years, 2, Scot Lane, Pemberton. Case commenced January 23rd, 1907, removed to Sanatorium February 5th, 1907. 2 living and 2 sleeping rooms, occupied by 3 adults and 3 children. 1 child attends St. Mark's School. Surroundings, yard part paved, drains trapped, privy midden. Milk purchased from Jones.

13. Notified February 7th, 1907, J. H., aged 21 years, male, 36, Albert Street, Pemberton. Case commenced January 25th, 1907, removed to Sanatorium February 7th, 1907. 2 living and 2 sleeping rooms, occupied by 3 adults and 2 children. Patient works at Park Lane Collieries, labourer. Surroundings, open yard, part flagged, drains trapped, privy. No milk used.

14. Notified February 12th, 1907, T. L. K., female, aged 24 years, 5, Cheltenham Street. Case commenced January 22nd, 1907, too ill for removal. 2 living and 2 sleeping rooms, occupied by 3 adults and 3 children. Patient works at Taylor Bros.' Mills in spinning room. 2 children attend Whelley School. Surroundings, open yard, unpaved, street unpaved, drains trapped, pail closets. No milk used.

15. Notified February 15th, 1907, M. P., female, aged 25 years, Wigan Workhouse. Case commenced January 28th, 1907, removed to Sanatorium February 12th, 1907. Patient was taken from No. 6, Spring Street, to the Workhouse.

16. Notified February 28th, 1907, J. F. C., male, aged 23 years, 83, Chapel Lane. Case commenced February 15th, 1907, removed to Sanatorium February 23th, 1907. 2 living and 3 sleeping rooms, occupied by 4 adults and 4 children. Patient is a labourer at Douglas Bank Collieries (underground). 1 child attends St. Thomas's School, Caroline Street. Surroundings, yard flagged, drains trapped, pail closet. Milk purchased from Hurst's and Lewis.



17. Notified March 11th, 1907, T. H., male, aged 21 years, 63, Schofield Lane. Case commenced February 28th, 1907, isolated at home. 2 living and 3 sleeping rooms, occupied by 4 adults and 2 children. Patient is a labourer at Lindsay Pit. 1 child attends St. Catharine's School. Surroundings, yard flagged, drains trapped, pail closet. Milk purchased from Haddock's.

18. Notified March 13th, 1907, R. W., male, aged 8 years, 4, Layland Street. Case commenced February 16th, 1907, removed to Sanatorium March 14th, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 6 children. Patient attends National School (also three other children). A case of Enteric Fever was removed from No. 80, Prescott Street, on January 14th, 1907, this house is immediately at the rear of 4, Layland Street. Surroundings, yard flagged, drains trapped, pail closet, unpaved passage at rear. Milk purchased from Bullock's.

19. Notified March 16th, 1907, M. A. H., female, aged 34 years, 252, Scot Lane, Pemberton. Case commenced February 25th, 1907, removed to Sanatorium March 19th, 1907. 2 living and 3 sleeping rooms, occupied by 2 adults and 6 children. Patient engaged in domestic duties. 4 children attend St. Mark's School. Surroundings, yard flagged, drains trapped, water closet. Milk purchased from Waring's.

20. Notified March 18th, 1907, C. L., male, aged 19 years, 7, Coronation Street. Case commenced March 8th, 1907, Isolated at home, 2 adults and 2 children occupy 2 living and 3 sleeping rooms. Patient is a collier at Lamb and Moore's, but has not followed his employment for six weeks owing to an accident. 1 child attends St. James's School. Surroundings, yard flagged, drains trapped, water closet. Milk purchased from Callow Park Dairy Co.

21. Notified March 19th, 1907, I. A., female, aged 17 years, 266, Billinge Road, Pemberton. Case commenced March 10th, 1907, isolated at home. Case died March 19th, 1907. 5 adults occupy 3 living and 4 sleeping rooms. Patient assists her father in grocer's shop. Surroundings, yard bricked, drains trapped, privy



midden. Keep swine in yard at rear. Milk purchased from W. Alker.

22. Notified March 21st, 1907, E. W., female, aged 12 years, 4, Layland Street. Case commenced March 15th, 1907, removed to Sanatorium, March 21st, 1907. 2nd case, 1st case No. 18.

23. Notified March 21st, 1907, A. E. W., male, aged 6 years, 4, Layland Street. Case commenced March 17th, 1907, removed to Sanatorium March 21st, 1907. 3rd case, 2nd case No. 22, 1st case No. 18.

24. Notified March 27th, 1907, W. O. W., male, aged 15 years, 4, Layland Street. Case commenced March 20th, 1907, removed to Sanatorium March 27th, 1907. Patient is a carter for Rylands, Pemberton. 4th case, 1st case No. 18, 2nd case No. 22, 3rd case No. 23.

25. Notified April 3rd, E. B., female, aged 10 years, 21, Golborne Street. Case commenced March 25th, 1907, removed to Sanatorium April 3rd, 1907. 2 living and 2 sleeping rooms, occupied by 3 adults and 5 children. Patient attends St. Catharine's School, also 2 other children. Surroundings, yard paved, drains trapped, pail closet. Milk purchased from various persons.

26. Notified April 11th, 1907, A. L., female, aged 38 years, 1, Spring Street. Case commenced March 21st, 1907, removed to Sanatorium April 11th, 1907. 2 living and 2 sleeping rooms, occupied by 3 adults and 4 children. Patient engaged in domestic duties, 2 children attend St. Patrick's School. Surroundings. yard bricked, drains trapped, pail closet, unpaved passage, which is about 2 feet above the level of kitchen floor, causing the house to be very damp. Milk purchased from Barton's.

27. Notified April 11th, 1907, J. L., male, aged 12 years, 1, Spring Street. Case commenced March 21st, 1907, removed to Sanatorium April 11th, 1907. Patient attends St. Patrick's School. 2nd case, 1st case No. 26.

28. Notified April 13th, 1907, J. H., male, aged 16 years, 17, Burlington Street. Case commenced March 23rd, 1907, removed to Sanatorium April 13th, 1907. 2 living and 2 sleeping rooms, occupied by 6 adults and 6 children. Patient works in ring room at Swan Meadow Mill. 4 children attend St. George's School. Surroundings, yard part flagged, drains trapped, pail closet. Milk purchased from Thompson's.

29. Notified April 15th, 1907, N. W., female, aged 10 years, 4, Layland Street. Case commenced April 11th, 1907, removed to Sanatorium April 15th, 1907. 5th case, 1st case No. 18, 2nd case No. 22, 3rd case No. 23, 4th case No. 24.

30. Notified April 22nd, 1907, J. K., male, aged 71 years, 4, Birkett Bank. Case commenced April 18th, 1907, isolated at home. 2 living and 5 sleeping rooms, occupied by 7 adults and 1 child. Patient has not followed any employment for 2 years. Surroundings, yard flagged and paved, drains trapped, water closet. Milk purchased from Haddock's.

31. Notified April 24th, 1907, J. A. A., female, aged 50 years, 133, Great George Street. Case commenced April 10th, 1907, removed to Sanatorium April 24th, 1907. 2 living and 3 sleeping rooms, occupied by 3 adults and 2 children. Patient engaged in domestic duties. 1 child attends St. Thomas's School, Clayton Street. Surroundings, yard flagged, drains trapped, pail closet. Milk purchased from Letman's.

32. Notified May 4th, 1907, A. B., female, aged 12 years, 21, Golborne Street. Case commenced April 21st, 1907, removed to Sanatorium May 4th, 1907. 2nd case, 1st case No. 25. Patient attends St. Catharine's School.

33. Notified May 8th, 1907, F. J., male, aged 24 years, 5, Gee's Court. Case commenced April 23rd, 1907. Too ill to be removed. 1 living and 1 sleeping room, occupied by 2 adults and 2 children. Patient is a collier at Pearson and Knowles' Collieries. Surroundings, street unpaved, yard very small, flagged, pail closet very near to back door, drains trapped. Milk purchased from Barton's.



34. Notified May 11th, 1907, J. G., male, aged 17 years, 72, Linney Street. Case commenced April 30th, 1907. Removed to Sanatorium May 11th, 1907. 2 living and two sleeping rooms, occupied by 6 adults and 6 children. Patient is employed in the gasworks at Rylands' Mill. 3 children attend St. Catharine's School. Surroundings, yard flagged, drains trapped, pail closet, passage at rear unpaved. Milk purchased from Haddock's.

35. Notified May 22nd, 1907, J. S. L., male, aged 48 years, Union Workhouse. Case commenced May 6th, 1907. Removed to Sanatorium, May 22, 1907. Patient had been on tramp and came from Bolton to Wigan.

36. Notified May 29th, 1907, F. B., male, aged 19 years, 19, Scot Lane, Pemberton. Case commenced May 10th, 1907. Isolated at home. 3 living and four sleeping rooms, occupied by 6 adults and 3 children. Patient is a labourer at Lamb and Moore's Colliery. 2 children attend St. Mark's School. Surroundings, yard unpaved, drains trapped, privy midden. Milk purchased from Williams and Leach.

37. May 30th, 1907 (Notified), E. A., female, aged 27 years, 16, Caunce Street. Case commenced May 16th, 1907. Removed to Sanatorium May 30th, 1907. 2 living and 3 bedrooms, occupied by 2 adults and 2 children. Patient is engaged in domestic duties (no school). Case of Enteric Fever was removed from 72, Linney Street, on May 11th, 1907. This house is at the rear of 16, Caunce Street. Surroundings, yard flagged, drains trapped, waste-water closet. Milk from Winnard's.

38. Notified May 30th, 1907, M. E., female, 16 years, 9, Rylands Street. Case commenced May 13th, 1907. Isolated at home. 2 living and 3 bedrooms, occupied by 6 adults and 3 children. Patient is engaged in domestic duties. 2 children attend school—1 Wesleyan, and 1 National. Surroundings, yard flagged, drains trapped, waste-water closet. Milk purchased from Dunn's and Schofield's.



39. Notified June 10th, 1907, A. Mc.C., male, 28 years, 6, Baker Street. Case commenced May 22nd, 1907. Too ill to be removed (but was afterwards removed to the Sanatorium July 8th). 1 living and 2 bedrooms, occupied by 2 adults and one child. Patient is a collier at Blundell's Colliery. Surroundings, yard flagged, drains trapped, pail closet, no back door. Milk purchased from Fairbrother's.

40. Notified June 17th, 1907, W. H., female, aged 10 years, 77, Greenough Street.

41. Notified June 17th, 1907, A. H., female, aged 12 years, 77, Greenough Street. Case No. 40 commenced June 11th, 1907, removed to Sanatorium June 17th 1907. Case No. 41 commenced June 11th 1907, removed to Sanatorium June 17th, 1907. 2 living and 3 sleeping rooms, occupied by 6 adults and 4 children. Patient attends St. Mary's School along with 2 other children. Another child has recently been ill at the house and probably suffered from Enteric Fever, a doctor was not called in to see this child until it had almost recovered. Surroundings, yard part tiled, drains trapped, pail closet. Milk purchased from Barton's.

42. Notified June 19th, 1907, P. F., male, aged 6 years, 18, Caunce Street. Case commenced June 2nd, 1907, removed to Sanatorium June 19th, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 5 children. Patient attends St. Catharine's School along with 2 other children. A case of Enteric Fever was notified at No. 16, Caunce Street, on May 30. Surroundings, yard flagged (defective), drains trapped, waste-water closet, unpaved passage at rear. Milk purchased from Foster's.

43. Notified June 19th, 1907, J. L., male, aged 35 years, 158, Poolstock Lane, Pemberton. Case commenced June 8th, 1907, isolated at home. 2 living and 2 sleeping rooms, occupied by 4 adults and 1 child. Patient is engaged as a surface hand at Worsley Mesnes Colliery. Surroundings, yard part flagged, drains trapped, privy midden. Milk purchased from Hodgkinson's.

44. Notified June 22nd, 1907, L. B., female, aged 10 years 34, Caunce Street. Case commenced June 10th, 1907, removed to Sanatorium June 22nd, 1907. 2 living and 2 sleeping rooms, occupied by 3 adults and 3 children. Patient attends St. Catharine's School. Probable source of infection, cases 34, 37, or 42. Surroundings, yard flagged, drains trapped, waste-water closet. No milk used.

45. Notified June 26th, 1907, E. A. A., female, aged 19 years, 15, Caunce Street. Case commenced June 11th, 1907, removed to Sanatorium June 26th, 1907. 2 living and 2 sleeping rooms, occupied by 4 adults and 2 children. Patient works at Eckersley's Mill, had been nursing case 37, which occurred at 16, Caunce Street. Surroundings, yard flagged, drains trapped, pail closet. Milk purchased from Winnard's.

46. Notified July 9th, 1907, W. B., male, aged 24 years, 21, Diggle Street. Case commenced June 27th, 1907, removed to Sanatorium July 9th, 1907. 2 living and three sleeping rooms, occupied by 6 adults and 1 child. Patient works at Duerden's, Fish and Poultry Dealers, Market Street. 1 child attends National School. Surroundings, yard flagged, drains trapped, water closet. Milk purchased from Haddock's.

47. Notified July 11th, 1907, P. B., male, aged 16 years, 31, Ormandy's Houses. Case commenced July 6th, 1907, removed to Sanatorium July 11th, 1907. 1 living and 1 sleeping room, occupied by 3 adults and 4 children. Patient works at Pearson and Knowles' Collieries. 2 children attend St. Joseph's School. Surroundings, back to back houses, yard unpaved, drains trapped, pail closet. Milk purchased from Callow Park Dairy Co.

48. Notified July 18th, 1907, T. C., male, aged 22 years, 131, Platt Lane. Case commenced July 4th, 1907, removed to Sanatorium July 18th, 1907. 2 living and 2 sleeping rooms, occupied by 3 adults and 2 children. Patient is a carter for the Wigan Coal and Iron Co. 1 child attends Whelley School. Surrounding, house is



below level of street, yard and passage unpaved, drains trapped, pail closet. No milk used.

49. Notified July 27th, 1907, S. M., male, aged 60 years, 73, Marsh Green, Pemberton. Case commenced July 12th, 1907, isolated at home. 2 living and 2 sleeping rooms, occupied by 4 adults. Patient works at Douglas Bank Colliery (collier). Surroundings, insanitary, yard and area in front of house unpaved, drains trapped, privy midden. Milk purchased from Southworth's.

50. Notified July 29th, 1907, J. P., male, aged 35 years, 136, Chapel Lane. Case commenced July 2nd, 1907, removed to Sanatorium July 31st, 1907. 1 living room, 1 shop, and 2 sleeping rooms, occupied by 3 adults and two children. Patient keeps a chip potato shop, business closed during illness. Surroundings, yard covered in, flagged, drains trapped, pail closet, want of ashpit door. Milk purchased from Hurst's.

51. Notified July 29th, 1907, A. A., female, aged 21 years, 52, Millgate. Case commenced July 17th, 1907, removed to Sanatorium August 1st, 1907. 1 living room, shop, and 3 bedrooms, occupied by 4 adults and 5 children. Patient is a Cardroom hand at Brown's Mill, Worsley Mesnes. 3 children attend Presbyterian School. Surroundings, yard open, paved, drains trapped, pail closets. Milk purchased from Kearsley's.

52. Notified July 31st, 1907, L. F., female, aged 4 years, 60, Ormskirk Road, Pemberton. Case commenced July 17th, 1907, removed to Sanatorium July 31st, 1907. 1 living and 1 sleeping room, occupied by 2 adults and 3 children. No children attend school. Surroundings, yard open, badly paved, drains trapped, privy midden. Milk purchased from Bannister.

53. Notified August 7th, 1907, J. C., male, aged 21 years, 6, Wilcock Street. Case commenced July 29th, 1907, isolated at home. 2 living and 2 sleeping rooms, occupied by 5 adults. Patient is a colliery labourer at Crompton and Shawcross's. Surroundings, yard flagged, drains trapped, pail closet. Milk purchased from Britnall's.



54. Notified August 7th, 1907, W. R., male, aged 17 years, 18, Lymn Street. Case commenced July 27th, 1907, removed to Sanatorium August 7th, 1907. 2 living and 2 sleeping rooms, occupied by 5 adults and 3 children. Patient is an apprenticed fitter at Walker Bros. Parents attribute disease to patient bathing in the canal. One child attends Warrington Lane Council School. Surroundings, yard unpaved, drains trapped, pail closet. Milk purchased from Barton's.

55. Notified August 10th, 1907, T. C., male, aged 8 years, 5, Ashton's Yard, Duke Street. Case commenced July 28th, 1907, removed to Sanatorium August 10th, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 3 other children. Patient attends St. John's School, also three other children. Surroundings, yard open, flagged, drains trapped, pail closet. Milk purchased from Barnes.

56. Notified August 15th, 1907, E. C., male, aged 18 years, 51, Silver Street. Case commenced August 6th, 1907, removed to Sanatorium August 15th, 1907. 2 living and 2 sleeping rooms, occupied by 4 adults and 3 children. Patient is a surface hand at Worsley Mesnes Colliery. Had been away during August holidays to Southport and came home unwell. 2 children attend St. John's School. Surroundings, yard unpaved, drains trapped, pail closet. Milk purchased, condensed.

57. Notified August 19th, 1907, J. R. B., male, aged 17 years, 425, Ormskirk Road, Pemberton. Case commenced August 1st, 1907, removed to Sanatorium August 19th, 1907. 2 living and 3 sleeping rooms, occupied by 5 adults and 2 children. Patient is a surface hand at Norley Colliery. He suffered from an accident immediately before he sickened with this disease. 1 child attends Convent High School and 1 St. Cuthbert's School. Surroundings, yard part flagged, drains trapped, privy midden (defective). Milk purchased from Charnock's.

58. Notified August 21st, 1907, G. S., male, aged 37 years, 38, Ellesmere Road, Pemberton. Case commenced August 7th, 1907, removed to Sanatorium August 21st,

1907. 3 living and 3 sleeping rooms, occupied by 4 adults and 4 children. Patient is a tailor employed by Mr. J. Wright, King Street. 1 child attends St. Mark's School. Surroundings, yard part flagged, drains trapped, privy midden. Milk purchased from Turner's.

59. Notified August 26th, 1907, T. L., male, aged 37 years, 30, Northumberland Street, Pemberton. Case commenced August 10th, 1907, removed to Sanatorium August 26th, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 1 child. Patient is a blacksmith at Winstanley Collieries. Had been staying at Blackpool for the August holidays, and whilst there he often partook of oysters which he purchased from the stall on the sands. He sickened a few days after returning home. 1 child attends St. Paul's School. Surroundings, yard part flagged, drains trapped, privy midden. Milk purchased from Ball's.

60. Notified August 29th, 1907, W. H. W., male, aged 17 years, 13, Northumberland Street, Pemberton. Case commenced August 17th, 1907, removed to Sanatorium August 29th, 1907. 2 living and 2 sleeping rooms, occupied by 4 adults and 3 children. Patient is an apprentice in the moulding shop at Walker Bros. Case 54 also worked for this firm. 2 children attend St. Paul's School. Surroundings, yard unpaved, drains trapped, privy midden. Milk purchased from Bond's.

61. Notified August 29th, 1907, F.C., male, aged 7 years, 172, Wallgate. Case commenced August 22nd, 1907, removed to Sanatorium August 29th, 1907. Shop, 1 living and 3 sleeping rooms, occupied by 3 adults and 2 children. Patient attends St. Joseph's School. He probably contracted the disease from case No. 53, whom patient's mother had been in contact with. Surroundings, yard flagged, drains trapped, pail closet. Milk purchased from Gormally.

62. Notified August 31st, 1907, H. B., male, aged 41 years, Henhurst Bridge (Mill Yard). Case commenced August 22nd, 1907, removed to Sanatorium August 31st, 1907. 2 living and 2 sleeping rooms, occupied by 3 adults and 2 children. Patient is employed at Messrs.



Rylands' mill, as overlooker, in weaving shed. He had been to Blackpool for the August holidays, and became unwell soon after returning home. 2 children attend St. Thomas's School, Caroline Street. Surroundings, yard tiled, drains trapped, pail closet. Milk purchased from Hodge's.

63. Notified September 2nd, 1907, E. B. L., female, aged 30 years, 158, Poolstock Lane. Case commenced August 26th, 1907, removed to Sanatorium September 3rd, 1907, 2nd case, 1st case No. 43. Patient nursed 1st case which occurred at this house

64. Notified September 4th, 1907, J. B., male, aged 36 years, 436, Warrington Road, Pemberton. Case commenced August 21st, 1907, removed to Sanatorium September 4th, 1907. 2 living and 2 sleeping rooms, occupied by 5 adults. Patient is a collier at Park Lane Colliery. Surroundings, yard part flagged, drains trapped, privy. Milk purchased from Finney's.

65. Notified September 7th, 1907, M. A., female, aged 16 years, 446, Warrington Road, Pemberton. Case commenced August 27th, 1907, removed to Sanatorium September 7th, 1907. 2 living and 2 sleeping rooms, occupied by 5 adults and 1 child. Patient is a spinner at May Mill, Pemberton. Surroundings, yard part flagged, drains defective, privy. Milk purchased from Phythian's.

66. Notified September 7th, 1907, T. B., male, aged 10 years, 11, Shelmardine Street. Case commenced August 24th, 1907, removed to Sanatorium September 7th, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and three children. Patient attends Presbyterian School along with 2 other children. Surroundings, yard flagged, drains trapped, pail closet. Milk purchased from Barton's.

67. Notified September 7th, 1907, M. A. F., female, aged 22 years, 15, Albert Street, Pemberton. Case commenced August 21st, 1907, not fit for removal. 1 living and 2 sleeping rooms, occupied by 3 adults and 1 child. Patient engaged in domestic duties. Patient is



a sister to case 36, and had visited him while he was suffering from the disease. Surroundings, yard unpaved, drains defective, privy midden. Back to back house. Milk purchased from various persons.

68. Notified September 14th, 1907, A. B., female, aged 28 years, 63, Meverley Street. Case commenced August 24th, 1907, isolated at home. 2 adults and 2 children occupy 2 living and 3 sleeping rooms. Patient engaged in domestic duties, had been visiting relatives at 27, Slaterfield, Bolton (about July 26th), who were suffering from this disease. Surroundings, yard flagged, drains trapped. pail closet. Milk purchased from Jones.

69. Notified September 16th, 1907, H. H., male, aged 34 years, 4, Sydney Street, Pemberton. Case commenced September 2nd, 1907, removed to Sanatorium September 16th, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 3 children. Patient is a collier at Blundell's Colliery. 2 children attend St. Paul's School. Surroundings, yard unpaved, drains trapped, damp house, no back door, privy midden. Milk purchased from Ball's.

70. Notified September 16th, 1907, T. B., male, aged 37 years, 3, Preston's Yard, Albert Street, Pemberton. Case commenced September 4th, 1907. Too ill to be removed. 1 living and 1 sleeping room, occupied by 2 adults and 4 children. Patient is a collier at Blundell's Colliery. 1 child attends St. Mark's and 2 children Marsh Green Schools. Surroundings, yard unpaved, defective drains, privy. Milk purchased from Hurst's.

71. Notified September 16th, 1907, E. C., female, aged 29 years, 1, Monk's Yard, Pemberton. Case commenced August 31st, 1907, removed to Sanatorium September 16th, 1907. Patient does not follow any employment. Surroundings, yard paved, drains trapped, privy midden, slopstone pipe defective. Milk purchased from Glover's.

72. Notified September 24th, 1907, E. B., female, aged 35 years, Back 407, Warrington Road. Case commenced September 16th, 1907, removed to Sanatorium September 24th, 1907. 1 living and 2 sleeping rooms, occupied by

2 adults and 2 children. Patient engaged in domestic duties, probably contracted disease from case No. 71. 2 children attend St. Paul's School. Surroundings, yard paved, drains trapped, privy midden. No milk used.

73. Notified September 27th, 1907, J. A. C., male, aged 24 years, 1, Monks's Yard, Pemberton. Case commenced September 24th, 1907, removed to Sanatorium September 27th, 1907. 2nd case, 1st case No. 71. Collier at Park Lane Colliery.

74. Notified September 27th, 1907, J. B., male, aged 8 years, 49, Warrington Road, Pemberton. Case commenced September 12th, 1907, removed to Sanatorium September 27th, 1907. 2 living and 2 sleeping rooms, occupied by 4 adults and 3 children. Patient attends St. Mark's School. Surroundings, yard part flagged, drains trapped, privy midden. Milk purchased from Costelli.

75. Notified September 27th, 1907, L.D., female, aged 26 years, 4, Delph Street. Case commenced September 23rd, 1907, isolated at home. Patient engaged in domestic duties. Surroundings, yard flagged, drains trapped, waste water closet which had been out of order a short time before patient sickened. Milk purchased from Hodge's.

76. Notified September 30th, 1907, M. C., female, aged 27 years, 27, Lyon Street. Case commenced September 22nd, 1907, removed to Sanatorium September 30th, 1907. 1 living and 1 sleeping room, occupied by 3 adults. Patient engaged in domestic duties. Surroundings, back to back house, yard flagged, drains trapped pail closet. Milk purchased from Culshaw's.

77. Notified October 9th, 1907, I. V., female, aged 4 years, 14, Ellesmere Road, Pemberton. Case commenced September 25th, 1907, removed to Sanatorium October 10th, 1907. 3 living and 3 sleeping rooms, occupied by 6 adults and 1 child. Patient was visiting 14, Ellesmere Road, when she sickened with the disease; lives at 91a, Ormskirk Road (near Scot Lane). Surroundings, yard



flagged, drains trapped, privy midden. Milk purchased from Waring's.

78. Notified October 9, 1907, W. F., male, aged 3 years, 53, Stanley Street. Case commenced September 29th, 1907, removed to Sanatorium October 10th, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 6 children. 3 children attend St. George's School. Surroundings, yard flagged, drains trapped, pail closet. Milk purchased from Foster's.

79. Notified October 11th, 1907, J. A., male, aged 32 years, 54, Soho Street, Pemberton. Case commenced September 21st, 1907, too ill for removal. 2 living and 2 sleeping rooms, occupied by 2 adults and 5 children. Patient is a carter employed by J. Roby, Grocer, Enfield Street. Surroundings, yard paved, drains trapped, privy midden. Milk purchased from Hurst's.

80. Notified October 12th, 1907, J. F., male, aged 23 years, 15, Albert Street, Pemberton. Case commenced October 5th, 1907, removed to Sanatorium October 12th, 1907. 2nd case, 1st case No. 67. Patient is a railway goods guard.

81. Notified October 14th, 1907, A. W., female, aged 44 years, 51, Hardybutts (public-house). Case commenced October 1st, 1907, isolated at home. 3 living and 3 sleeping rooms, also public rooms, occupied by 3 adults and 4 children. Patient is engaged in domestic duties and assists in the bar. Three children attend school at Platt Bridge. Surroundings, yard flagged, drains trapped, water closets inside and outside house. Milk purchased from Hickey's.

82. Notified October 19th, 1907, H. H., male, aged 16 years, 9, Victoria Street, Pemberton. Case commenced October 5th, 1907, removed to Sanatorium October 19th, 1907. 2 living and 2 sleeping rooms, occupied by 4 adults and 3 children. Patient is a surface hand at Park Lane Colliery. He suffered from an accident immediately before he sickened from this disease. 3 children attend St. Mark's School. Surroundings, yard flagged, drains trapped, privy midden. No milk used.



83. Notified October 22nd, 1907, W. H., male, aged 18 years, 11, Elizabeth Street. Case commenced October 12th, 1907, removed to Sanatorium October 22nd, 1907. 2 living and 2 sleeping rooms, occupied by 7 adults and 1 child. Patient works at Alexandra Pit, Whelley, below surface. Surroundings, yard concreted, drains trapped, water closet. Milk purchased from Green's.

84. Notified November 7th, 1907, G. S., male, aged 7 years, 45, Warrington Road, Pemberton. Case commenced October 26th, 1907, removed to Sanatorium November 7th, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 5 children. Patient attends St. Mark's School, along with one other child. Probable source of infection—from case which occurred at 49, Warrington Road. Patient's sister has also been ill from similar complaint, and is now convalescent. Surroundings, yard part flagged, drains trapped, privy midden. Milk purchased from Bannister's.

85. Notified November 7th, 1907, E. F., female, aged  $5\frac{1}{2}$  years, 68, Platt Lane. Case commenced November 1st, 1907, too ill for removal to Sanatorium. 2 living and 2 sleeping rooms, occupied by 3 adults and 6 children. 2 children attend St. Catharine's School. Surroundings, yard unpaved, drains trapped, pail closet. Milk purchased from Tickle's.

86. Notified November 8th, 1907, A. S., female, aged 15 year, 377, Warrington Road, Pemberton. Case commenced October 31st, 1907, removed to Sanatorium November 8th, 1907. 1 living and 4 sleeping rooms, occupied by 3 adults and 8 children. Patient is a weaver at Messrs. Brown and Nephews, Worsley Mesnes Mill. 4 children attend St. Paul's School. Surroundings, yard paved, drains trapped, privy midden. Milk purchased from Glover's and Ball's.

87. Notified November 8th, 1907, M. G., female, aged 30 years, 37, Alfred Street, Pemberton. Case commenced October 31st, 1907, removed to Sanatorium November

8th, 1907. 2 living and 2 sleeping rooms, occupied by 3 adults and 4 children. Patient engaged in domestic duties. 2 children attend St Paul's School. Surroundings, yard part paved, drains trapped, privy midden. Milk purchased from Ball's.

88. Notified November 13th, 1907, A. J., male, aged 9 years, 29, Alfred Street, Pemberton. Case commenced October 31st, 1907, removed to Sanatorium November 13th, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 5 children. Patient attends St. Paul's School, also 2 other children. Surroundings, yard paved, drains trapped, privy midden. Milk purchased from Phythian's.

89. Notified November 15th, 1907, J. W., male, aged 60 years, 61, Pool Street. Case commenced October 26th, 1907, isolated at home. 2 living and 2 sleeping rooms, occupied by 4 adults. Patient is engaged as a timekeeper at Eckersley's Mill. Surroundings, yard flagged, drains trapped, pail closet. Milk purchased from Holland's.

90. Notified November 16th, 1907, M. S., male, aged 6 years, 72, Soho Street, Pemberton. Case commenced October 26th, 1907, isolated at home. 2 living and 2 sleeping rooms, occupied by 2 adults and 5 children. 1 child attends St. Cuthbert's School. Patient had been staying with relatives at 39, Woodfield Street, New Springs, where a case of Enteric Fever occurred. Surroundings, yard paved, drains trapped, privy midden. Milk purchased from Hurst's.

91. Notified November 20th, 1907, J. L., male, aged 43 years, 6, Wilde's Cottages, Pemberton. Case commenced November 7th, 1907, removed to Sanatorium November 20th, 1907. 1 living and 1 sleeping room, occupied by 2 adults and 3 children. Patient is a collier at Blundell's Colliery. 1 child attends Highfield School. Surroundings, yard unpaved, drains trapped, privy midden. Milk purchased from Alker's.



92. Notified November 29th, 1907, J. H., male, aged 31 years, 178, Enfield Street, Pemberton. Case commenced November 4th, 1907, isolated at home 2 living and 2 sleeping rooms, occupied by 4 adults and 5 children. Patient is a collier at Blundell's Colliery. 2 children attend Highfield School. Surroundings, yard part flagged, drains trapped, privy. Milk purchased from Johnson's.

93. Notified November 29th, 1907, J. H., male, aged 6 years, 13, Wilshaw Street, Pemberton. Case commenced November 21st, 1907, removed to Sanatorium December 2nd, 1907. 2 living and 2 sleeping rooms, occupied by 3 adults and 3 children. Patient attends St. Cuthbert's School. Surroundings, yard flagged, drains trapped, privy midden. Milk purchased from Waring's.

94. Notified December 4th, 1907, J. A., female, aged 9 years, 48, Fleet Street, Pemberton. Case commenced November 24th, 1907, isolated at home. 2 living and 2 sleeping rooms, occupied by 3 adults and 3 children. Patient attends St. John's School, Pemberton, also 1 other child. Surroundings, yard paved, drains trapped, privy midden. Milk purchased from Moorfield's.

95. Notified December 7th, 1907, M. S., female, aged 8 years, 379, Warrington Road, Pemberton. Case commenced November 26th, 1907, removed to Sanatorium December 7th, 1907. 2nd case, 1st case No. 86. Patient attends St. Paul's School.

96. Notified December 10th, 1907, B. L., female, aged 15 years, 7, Coronation Street. Case commenced November 13th, 1907, isolated at home. 2 living and 3 sleeping rooms, occupied by 3 adults and 1 child. Patient works in reeling rooms at Eckersley's Mill. 1 child attends St. James's School. Surroundings, yard flagged, drains trapped, water closet. Milk purchased from O'Donahue's.

97. Notified December 12th, 1907, J. P., male, aged 28 years, 236, Gidlow Lane. Case commenced



November 28th, 1907, removed to Sanatorium December 12th, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 2 children. Patient is a collier at Douglas Bank Colliery. 2 children attend St. Andrew's School. Surroundings, yard part flagged, drains trapped, pail closet. Milk purchased from Hodge's.

98. Notified December 12th, 1907, M. P., male, aged 20 years, 6, Holland Street. Case commenced November 28th, 1907, removed to Sanatorium December 12th, 1907. 2 living and 2 sleeping rooms, occupied by 6 adults and 1 child. Patient is a collier at Worsley Mesnes Colliery. 1 child attends St. Patrick's School. Surroundings, yard paved, drains trapped, water closet. Milk purchased from Haddock's.

99. Notified December 14th, 1907, E. H., female, aged 9 years, 244, Gidlow Lane. Case commenced November 2nd, 1907, isolated at home. 2 living and 2 sleeping rooms, occupied by 2 adults and 4 children. Patient attends National School, also three other children. Surroundings, yard part flagged, drains trapped, pail closet. Milk purchased from Schofield's.

100. Notified December 14th, 1907, G. H., male, aged 7 years, 244, Gidlow Lane. Case commenced November 16th, 1907, isolated at home. 2nd case, 1st case No. 99.

101. Notified December 17th, 1907, T. F., male, aged 15 years, 53, Stanley Street. Case commenced December 23rd, 1907, removed to Sanatorium December 17th, 1907. 2nd case, 1st case No. 78. Patient is a shop assistant for Mr. B. Turner.

102. Notified December 17th, 1907, M. H., female, aged 6 years, 54, Mitchell Street, Pemberton. Case commenced December 8th, 1907, isolated at home. 2 living and 3 sleeping rooms, occupied by 4 adults and 2 children. Patient attends St. Cuthbert's School. Surroundings, yard flagged, drains trapped, privy midden. Milk purchased from Turner's.

103. Notified December 18th, 1907, C. L., male, aged 24 years, 1, Turner's Yard, Pemberton. Case commenced November 27th, 1907, removed to Sanatorium December 18th, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 1 child. Patient is employed as a collier at Blundell's Colliery. Surroundings, yard part paved, drains trapped, privy midden. Milk purchased from Smith's.

104. Notified December 18th, 1907, M. O'N., male, aged 35 years, 18, Teck Street. Case commenced December 7th, 1907, removed to Sanatorium December 18th, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 2 children. Patient is a collier at Rose Bridge Colliery. Surroundings, yard flagged, drains trapped, pail closet (defective roof). Milk purchased from Plover's.

105. Notified December 21st, 1907, E.R., female, aged 12 years, Canal Bank, Pottery Bridge. Case commenced December 7th, 1907, removed to Sanatorium December 21st, 1907. 2 living and 3 sleeping rooms, occupied by 2 adults and 2 children. Patient attends Wesleyan School, and another child Girls' High School. Surrounding, yard flagged, drains trapped, pail closet. Milk purchased from Letman's.

106. Notified December 23rd, 1907, T. S., male, aged 23 years, 7, Bentinck Street, Pemberton. Case commenced December 15th, 1907, removed to Sanatorium December 23rd, 1907. 2 living and 2 sleeping rooms, occupied by 2 adults and 1 child. Patient is a collier at Blundell's Colliery. Surroundings, yard part flagged, drains trapped, privy midden. Milk purchased from Phythian's.

107. Notified December 24th, 1907, W. B., male, aged 27 years, 27, Swann Street. Case commenced December 14th, 1907, too ill for removal. 2 living and 2 sleeping rooms, occupied by 4 adults and 6 children. Patient is a collier at Cross, Tetley, and Co.'s Collieries. 2 children attend St. Thomas's School, Clayton Street. Surroundings, yard unpaved, drains trapped, pail closet. Milk purchased from O'Donahue's.



## ENTERIC FEVER CASES, 1907.

Case 2 was probably the source of cases 18, 22, 23, 24, and 29.

Case 3 may have been the source of cases 25, 32, 34, 37, 42, 44, and 45.

Cases 4, 5, 10, 12, 13, 36, 52, 67, 77, 80 followed on from outbreak which occurred in the Scot Lane district, Pemberton, in 1906.

Cases 6, 33, and 47 all worked in the same coal-mine.

Cases 7 and 8 were probably infected from another child at the same house who had suffered from a similar complaint, but was not notified as suffering from Enteric Fever.

Case 15 was probably the source of cases 26 and 27.

Case 35 was a tramp removed from the Union Workhouse, and had no doubt contracted the disease before he arrived in Wigan.

Cases 40 and 41 were probably infected from another child who suffered from a similar complaint, but who did not receive medical attention until he had almost recovered, and was not notified as suffering from Enteric Fever.

Case 43 was source of case 63.

Case 53 was source of case 61.

Cases 59, 60, 64, 65, 69, 70, 71, 72, 73, 86, 87, 88, 95, and 106 were all from the Goose Green district, and probably all arose from the same source.

Case 62 had been away to Blackpool for summer holidays, and became unwell soon after returning home.

Case 68 contracted the disease from relatives she had been visiting at 27, Slaterfield, Bolton, who were suffering from this complaint.



Case 74 source of cases 82 and 84, and may have contracted the disease from cases which occurred in the Scot Lane district.

Case 78 was source of case 101.

Case 79 was probably source of case 93.

Case 90 contracted the disease from a relative he had been staying with at 39, Woodfield Street, New Springs, who was suffering from this complaint.

Cases 91, 92, and 103 were colliers who worked at Blundell's Colliery and may have contracted the disease from other colliers, who suffered from the complaint and lived in the Goose Green district.

Case 99 was probably the source of cases 97 and 100.

The following is a list of houses where two or more cases of Enteric Fever have occurred :—

					Cases.
48, Warrington Lane ...	...	...	...	...	2
61, Poolstock Lane ...	...	...	...	...	2
4, Layland Street ...	...	...	...	...	5
7, Coronation Street ...	...	...	...	...	2
1, Spring Street ...	...	...	...	...	2
21, Golborne Street ...	...	...	...	...	2
77, Greenough Street ...	...	...	...	...	2
158, Poolstock Lane ...	...	...	...	...	2
15, Albert Street ...	...	...	...	...	2
1, Monk's Yard, Warrington Road ..	...	...	...	...	2
53, Stanley Street ...	...	...	...	...	2
377, Warrington Road ...	...	...	...	...	2
244, Gidlow Lane ...	..	...	...	...	2

## DIARRHŒA.

Number of Deaths .....	60	In 1906 .....	139
Mortality of Population...	·66	„ .....	1·55

We had a rate of 1·55 in 1906, but we have this year only a rate of ·66.

## AGE INCIDENCE, 1907.

Month.	Deaths.	0-1 Year.	1-5 Years.	Over 5 Years
January .....	1	1	—	—
February ....	—	—	—	—
March .....	3	3	—	—
April .....	—	—	—	—
May .....	1	—	—	1
June .....	—	—	—	—
July .....	2	1	1	—
August .....	6	6	—	—
September .....	22	18	4	—
October .....	23	16	6	1
November .....	2	1	1	—
December.....	—	—	—	—
Total.....	60	46	12	2

# PARTICULARS *RE* DIARRHŒA DEATHS.

<i>Sex.</i>	<i>Age.</i>	<i>Address.</i>	<i>How Fed.</i>	<i>Milk.</i>	<i>Previous Deaths from Diarrhœa</i>	<i>W.C. Accom.</i>	<i>Yard.</i>	<i>Remarks.</i>
F.	9 months	3, Higham's Yd., Whelley.	Breast	—	—	Pail.	Part paved.	Back-to-Back house.
M.	4 months	54, Clayton Street	Breast.	—	—	Pail.	Part flagged	
F.	3 months	27, Whelley	Breast	—	—	Pail	Paved	
F.	5 months	51, Princess Street	Breast	—	—	Pail.	Flagged and paved	Insanitary surroundings; weak from birth.
M.	65 years	12, Wardley Street (P.)	Ordinary food	—	—	Privy	Unpaved	No through ventilation.
M.	6 months	45, Hey Street	Bottle (tube).	Condensed.	—	Pail.	Paved	Twin birth.
F.	1 Yr. 9 mon.	98, Miry Lane	Ordinary food	—	2	Pail.	Flagged	Weak from birth.
M.	8 months	1, Acton's Entry, Lyon St	Breast	—	—	Pail.	Flagged	No through ventilation.
F.	6 months	18, Longshoot	Bottle (tube).	Condensed.	—	Pail.	Unpaved	
F.	7 months	39, Adelaide Street	Breast	—	2	Pail.	Paved	
F.	7 months	609, Ormskirk Rd. (P.)	Bottle (tube).	Cow's	—	Privy	Flagged	Child's mother died when child was born.
M.	3 months	42, Lower Morris Street.	Bottle (tube).	Cow's & con.	—	Pail.	Unpaved	Twin birth.
M.	7 months	218, Enfield Street (P.)	Bottle (tube).	Cow's	1	Privy	Part flagged	Mother died when child was 10 weeks old
F.	3 months	48, Clayton Street	Bottle (tube).	Cow's	—	Pail.	Part flagged	
F.	21 days	11, Bridgewater Street (P.)	Bottle (tube).	Cow's	8	Privy	Unpaved	
M.	3 months	17, Birkett Bank	Breast & bottle boat	No milk; Patent foods	1	Water closet		Weak from birth.
M.	11 months	51, Soho Street (P.)	Bottle (boat)	Cow's	—	Privy	Flagged	
M.	4 months	10, Fowden Street	Breast	—	—	Pail.	Asphalted . Flagged	Mother suffered from Diarrhoea 3 or 4 days before child sickened.



## PARTICULARS RE DIARRHŒA DEATHS.—Continued.

Sex.	Age.	Address.	How Fed.	Milk.	Previous Deaths from Diarrhœa	W.C. Accom.	Yard.	Remarks.
F.	7 months ..	7, Bigham's Yd., Pitt St.	Bottle (tube) .	Cow's ..	—	Water closet	Flagged ..	Weak from birth
M.	3 months ..	32, Bradshaw Street	Bottle (tube) .	Patent foods	—	W.C.	Flagged	Ill from Birth.
M.	5 months ..	5, Dobb's Fold ..	Bottle (tube) .	Cow's ..	5	Pail .	Flagged ..	Ill from birth.
M.	9 months ..	31a, York Street	Bottle (boat) .	Sterilised ..	—	Pail .	Flagged ..	Weak from birth.
M.	10 months ..	2, Crawford Terrace	Bottle (boat) .	Cow's ..	—	Pail .	Bricked ..	Weak from birth
F.	10 months ..	3, Orchard Street	Bottle (tube) .	Condensed .	—	Pail .	Flagged ..	
M.	9 months ..	5, Red Lion Place, Chapel Lane ..	Breast ..	—	2	Pail .	Badly paved	
M.	11 months ..	3, Shaw's Yd., Hallgate .	Breast ..	—	—	Pail .	Unpaved ..	
M.	10 months ..	39, Princess Street ..	Bottle (tube & boat)	Condensed .	—	Pail .	Part flagged	
F.	3 months ..	22, Douglas Street	Breast ..	—	—	Pail .	Paved ..	Weak from birth.
F.	11 months ..	1, Walthew's Yd., Millgate	Bottle (boat)	Patent food	1	Water	Paved	
F.	1 Yr., 6 mon.	78, Pool Street ..	Spoon ..	—	—	Pail .	Flagged ..	
M.	9 months ..	5, Upper Morris Street .	Bottle (boat) .	Cow's ..	—	Pail .	Flagged ..	
M.	1 Yr., 2 mon.	135, Platt Lane ..	Spoon ..	Cow's ..	—	Pail .	Unpaved ..	Weak from birth.
F.	1 Yr., 8 mon.	74, Lower Morris Street .	Ordinary ..	—	—	Pail .	Flagged ..	
M.	10 months ..	5, Hodson Street	Bottle (boat) .	Cow's ..	—	Pail .	Flagged ..	Weak from birth.
F.	1 Yr., 3 mon.	7, St. Ann's Square	Breast ..	—	—	Pail .	Paved ..	
M.	8 months ..	4, Park Crescent	Bottle (boat) .	Patent food	—	W.C. inside		
						Pail		
						o'tside		
						Pail .	Flagged ..	Weak from birth.
						Privy	Flagged ..	
							Paved ..	Weak from birth. Insani-
F.	4 months ..	31, Lyon Street ..	Bottle (tube) .	Cow's ..	1			tary property.
F.	1 Year ..	5, Dickinson's Yd. (P.)..	Bottle (tube) .	Cow's ..	—			

PARTICULARS *RE* DIARRHŒA DEATHS.—*Continued.*

<i>Sex.</i>	<i>Age.</i>	<i>Address.</i>	<i>How Fed.</i>	<i>Milk.</i>	<i>Previous Deaths from Diarrhœa</i>	<i>W.C. Accom.</i>	<i>Yard.</i>	<i>Remarks.</i>
M.	4 months ..	2, Greenough's Gardens .	Bottle (boat & tube) ..	Cow's	—	Pail .	Flagged ..	Weak from birth.
M.	62 Years ..	6, Wood's Yd., Lime St.	Ordinary ..	—	—	Pail .	Unpaved ..	
M.	1 Yr., 5 mon.	137, Great George Street.	Ordinary ..	—	—	Pail .	Flagged ..	
M.	7 months ..	9, Johnson Street ..	Bottle (boat) .	Cow's	—	Pail .	Flagged ..	Weak from birth.
M.	1 month ..	37, Princess Street ..	Breast ..	—	1	Pail .	Flagged ..	
F.	2 months ..	1, Cross Street ..	Breast ..	—	—	Pail .	Paved ..	Weak from birth.
M.	11 months ..	766, Ormskirk Road (P.).	Bottle (boat & tube) ..	Condensed .	3	Privy	Part flagged	
M.	1 Year ..	4, Bailey's Ct., Hallgate..	Breast ..	—	—	Pail .	Paved ..	Insanitary property.
M.	9 months ..	2, Walker's Yd., Lyon St.	Breast ..	—	2	Pail .	Paved ..	
F.	1 month ..	19, Scot Lane (P.) ..	Bottle (tube) .	Cow's	—	Privy	Unpaved ..	Mother suffered from Enteric Fever when child was born.
F.	3 months ..	251, Woodhouse Lane ..	Bottle (tube) .	Cow's	—	Pail .	Part bricked	Weak from birth; mother works in factory.
M.	11 months ..	15, Belvoir Street ..	Breast ..	—	—	Waste water	Paved ..	
M.	6 months ..	1 Vere Street ..	Bottle (boat) .	Sterilised ..	—	Pail .	Flagged ..	Weak from birth; mother works in factory.
F.	10 months ..	76, Marsh Green (P.) ..	Bottle (tube) .	Cow's	—	Privy	Unpaved ..	Twin birth.
M.	1 Yr., 4 mon.	2, Wood St., Scot Lane (P.)	Breast ..	—	—	Privy	Flagged ..	
F.	1 Yr., 3 mon.	5, Walmer Street ..	Ordinary ..	—	—	Pail .	Flagged ..	
F.	10 months ..	28, Leader Street ..	Bottle (tube) .	Sterilised ..	—	Pail .	Flagged ..	
M.	8 months ..	8, Seed Street ..	Bottle (boat) .	Cow's	—	Pail .	Unpaved ..	
M.	2 Years ..	7, Grundy's Yd., Scholes.	Ordinary ..	—	4	Pail .	Part flagged	Weak from birth.
F.	7 months ..	8, Mason Street ..	Breast ..	—	—	Waste water	flagged ..	
M.	1 Yr., 7 mon.	7, Old Fold (P.) ..	Ordinary ..	—	—	Privy	Part paved	No back door.
M.	4 months ..	13, Marsden Street ..	Breast ..	—	—	Pail .	Flagged ..	Weak from birth.

## SUMMARY.

Breast Fed	...	...	...	...	20
Bottle Fed, Cow's Milk	...	...	...	...	17
Bottle Fed, Condensed Milk	...	...	...	...	5
Bottle Fed, Sterilized Milk	...	...	...	...	3
Bottle Fed, Cow's and Condensed Milk...					1
Bottle Fed, Patent Foods (no milk used).					3
Breast and Bottle Fed, Patent Food	...	...	...	...	1
Spoon Fed, Cow's Milk	...	...	...	...	2
Ordinary Food	...	...	...	...	8
					<hr/>
Total	...	...	...	...	60
					<hr/>



STREETS IN WIGAN FROM WHICH DEATHS FROM DIARRHŒA HAVE  
OCCURRED.

	1907	1906		1907	1906
Acton's Entry, Lyon St.	1	—	Marsden Street .....	1	—
Adelaide Street .....	1	1	Mason Street .. .....	1	—
Bailey's Court, Hal'gate	1	2	Miry Lane .....	1	—
Belvoir Street.....	1	—	Orchard Street.....	1	—
Bigham's Yard, Pitt St	1	—	Park Crescent.....	1	—
Birkett Bank .....	1	—	Platt Lane .....	1	2
Bradshaw Street.....	1	—	Pool Street .....	1	—
Clayton Street .....	2	—	Princess Street .....	3	—
Crawford Terrace .....	1	—	Red Lion Place, Chapel		
Cross Street.....	1	—	Lane .....	1	—
Dobb's Fold.....	1	—	Seed Street .....	1	1
Douglas Street .....	1	—	Shaw's Yard, Millgate.	1	1
Fowden Street .....	1	—	St. Ann's Square.....	1	—
Greenough's Gardens...	1	1	Upper Morris Street ..	1	—
Grundy's Yard, Schol's	1	—	Vere Street .....	1	—
Great George Street ...	1	1	Walker's Yard, Lyon		
Hey Street .....	1	—	Street .....	1	—
Higham's Yard, Whelley	1	—	Walmer Street .....	1	—
Hodson Street.....	1	—	Walthew's Yard, Mill-		
Johnson Street .....	1	—	gate .....	1	1
Leader Street .....	1	—	Whelley .....	1	—
Longshoot .....	1	—	Woodhouse Lane .....	1	—
Lower Morris Street ...	2	—	Wood's Yard, Lime St.	1	—
Lyon Street.....	1	—	York Street.....	1	1

STREETS IN PEMBERTON IN WHICH DEATHS FROM DIARRHŒA HAVE  
OCCURRED.

	1907	1906		1907	1906
Bridgewater Street.....	1	4	Ormskirk Road .....	2	7
Dickinson's Yard,			Scot Lane.....	1	1
Ormskirk Road .....	1	—	Soho Street.....	1	1
Enfield Street .....	1	1	Wardley Street .....	1	—
Marsh Green .....	1	—	Wood Street .....	1	—
Old Fold, Chapel Street	1	1			

It will be seen that September and October give us the greatest number of deaths, and, as in previous years, these are in children under the age of one year.

## DIPHTHERIA.

Number of Notifications .....	66
Number of deaths, including Croup .....	14
Mortality per 1,000 of population .....	·15

We have had an increase in the number of cases notified, namely, 66, against 49 in 1906, and the mortality is increased ·15 per 1,000 of population, against ·089. The following table shows the number of cases notified and the number of deaths :—

	Notified.	Deaths.
January ... ..	1	1
February ... ..	8	3
March ... ..	12	2
April ... ..	5	1
May ... ..	—	—
June ... ..	3	—
July ... ..	5	3
August ! ... ..	—	—
September ... ..	3	2
October ... ..	14	1
November ... ..	12	—
December ... ..	3	1
	66	14

The following is the result of the examinations bacteriologically made at the Thompson Yates Laboratory :—

Number of swabs, 8.

Staphylococci present 1 ; Bacillus present 1.

Suspicious Bacilli present and Mixed Culture, chiefly Cocci, 6.

## DIPHTHERIA CASES, 1907.

<i>Address.</i>	<i>Sanitary Surroundings.</i>
15, Church Street .....	Yard flagged and bricked, drains trapped, pail closet.
39, Bolton Street .....	Yard part paved, drains trapped, pail closet.
Gidlow Lane .....	Yard flagged, drains defective, W.C. inside.
„ .....	Pail outside.
13, Cowling Street .....	Yard flagged, defective gully, water closet.
14, Shared Street .....	Yard flagged, drains trapped, water closet. Street unpaved.
799, Ormskirk Road (P.) .....	Yard flagged, drains defective, privy midden.
799, Ormskirk Road (P.) .....	Yard flagged, drains defective, privy midden.
16, Vaughan Street .....	Yard part flagged, drains trapped, pail closet.
46, Ormskirk Road (P.) .....	Yard tiled, drains trapped, privy midden.
46, Ormskirk Road (P.) .....	Yard tiled, drains trapped, privy midden.
15, Ellesmere Road (P.) .....	Yard flagged, drains trapped, privy midden.
105, Whelley .....	Yard flagged, drains trapped, water closet.
65, Hardybutts .....	Yard flagged, drains trapped, pail closet.
7, Church Street (P.) .....	Yard part flagged, drains trapped, privy midden.
151, Hodges Street .....	Yard part flagged, drains trapped, waste water closet.
6, Norley Road (P.) .....	Yard unpaved, drains trapped, privy midden.
6, Norley Road (P.) .....	Yard unpaved, drains trapped, privy midden.
584, Warrington Road (P.) ....	Yard flagged, drains trapped, water closet.
16, Wenlock Street (P.) .....	Yard part flagged and bricked, drains trapped. Privy midden.
192a, Wallgate .....	Yard unpaved, drains trapped, pail closet.
51, Kirkless Street .....	Yard part flagged, drains trapped, pail closet.
19, Scot Lane (P.) .....	Yard unpaved, drains defective, privy midden.
9, Scot Lane (P.) .....	Yard flagged, drains trapped, privy midden.
9, Chadwick Street .....	Yard flagged, drains trapped, pail closet.
94, Swan Meadow Road .....	Yard flagged, drains trapped, pail closet.
9, Swann Street .....	Yard unpaved, drains trapped, pail closet.
43, Barnsley Street .....	Yard flagged, drains trapped, water closet.
10, Corporation Street .....	Yard tiled, defective drains, pail closet.
10, Corporation Street .....	Yard tiled, defective drains, pail closet.
INFIRMARY .....	
3, Park Road .....	Yard flagged, drains trapped, W.C. inside.
13, Byrom Street .....	Yard flagged, drains trapped, pail closet.
33, Kimberley Street .....	Yard flagged, drains trapped, water closet.
20, Upper Dicconson Street ....	Yard flagged, defective drains, W.C. in house, W.W.C. outside.



## DIPHTHERIA CASES, 1907.

<i>Address.</i>	<i>Sanitary Surroundings.</i>
2, Dicconson Terrace.....	Yard flagged, drains trapped, W.C. inside and out.
3, Princess Street (P.) .....	Yard paved, drains trapped, privy midden.
3, Princess Street (P.) .....	Yard paved, drains trapped, privy midden.
142, Great George Street .....	Yard flagged, drains defective, defective cellar, pail closet.
32, Charles Street .....	Yard flagged, drains trapped, pail closet.
32, Charles Street .....	Yard flagged, drains trapped, pail closet.
59, Mesnes Street .....	Yard flagged, drains trapped, pail closet outside, W.C. inside.
25, Scot Lane (P.) .....	Yard unpaved, drains trapped, privy midden.
24, Tipping Street .....	Yard flagged, drains trapped, pail closet.
230, Wallgate .....	Yard flagged, drains trapped, pail closet.
56, Princess Street .....	Yard concreted, drains trapped, waste water closet.
16, Foolstock .....	Yard flagged, drains trapped, waste water closet.
33, Vauxhall Road .....	Yard paved, drains trapped, waste water closet.
1, Thompson Street .....	Yard part flagged (defective), drains trapped, pail closet.
21, Smethurst Lane (P.) .....	Yard part flagged, drains trapped, water closet.
Upper Dicconson Street .....	Yard part flagged, drains trapped, W.C. inside.
60, Hodges Street .....	Yard flagged, drains trapped, water closet.
Henhurst Bridge.....	Yard tiled, drains trapped, pail closet.
15, Foy Street .....	Yard flagged, drains trapped, pail closet.
76, Warrington Lane.....	Yard flagged, drains trapped, pail closet.
61, Beech Hill Lane .....	Yard flagged, drains trapped, pail closet.
61, Beech Hill Lane .....	Yard flagged, drains trapped, pail closet.
24, Golborne Street .....	Yard flagged, drains trapped, pail closet.
53, Stanley Street .....	Yard flagged, drains trapped, pail closet.
53, Stanley Street .....	Yard flagged, drains trapped, pail closet.
22, Peet Street .....	Yard flagged, (defective) drains trapped, pail closet.
17, Folly .....	Yard flagged, defective drains, pail closets. Back-to-Back house.
12, Peet Street .....	Yard flagged, drains trapped, pail closet.
18, Chapel Street (P.) .....	Yard flagged, drains trapped, privy midden.
130, Warrington Road (P.) ....	Yard part flagged, drains trapped, privy midden.
68, Woodhouse Lane .....	Yard flagged and tiled, drains trapped, pail closet.
47, Stanley Street .....	Yard flagged (defective), drains trapped, pail closet. Unpaved passage.

## ERYSIPELAS.

Number notified...	...	...	...	77
Number of Deaths	...	...	...	1
Mortality per 1,000 of population	...	...	...	·011

We have a decrease in the number of deaths from Erysipelas 1, against 3, showing a decrease in the mortality rate.

# LIST OF HOUSES IN WHICH CASES OF ERYSIPELAS HAVE OCCURRED DURING 1907.

<i>Address.</i>	<i>Cause.</i>	<i>Condition of Yards and Other Remarks.</i>
48, Line Street ..	..	Yard paved, pail closet.
19, Hardybutts ..	Probably from cold ..	Yard flagged, pail closet.
81, Dicconson Street West ..	Probably from cold ..	Yard flagged, W.C. inside, pail outside.
253, Billinge Road (P.) ..	Accident ..	Yard paved, privy midden.
708, Ormskirk Road (P.) ..	Probably from cold ..	Yard part flagged, privy midden.
29, Hodson Street ..	Probably from cold ..	Yard flagged and bricked, pail closet.
14, Gower Street (P.) ..	Probably from cold ..	Yard flagged, privy midden.
83, Beech Hill Lane ..	Accident ..	Yard flagged, pail closet.
282, Billinge Road (P.) ..	Probably from cold ..	Yard paved, privy midden.
26, Tunstall Lane (P.) ..	Accident ..	Yard flagged and paved, privy midden.
29, Hodges Street ..	Probably from cold ..	Yard part flagged, waste water closet.
34, Taylor Street ..	Probably from cold ..	Yard flagged, pail closet.
11, Eckersley Street ..	Probably from cold ..	Yard paved, water closet. Patient has suffered from same complaint several times.
14, St. Patrick Street ..	Probably from cold ..	Yard unpaved, pail closet.
347, Gidlow Lane ..	Probably from cold ..	Yard flagged, water closet.
12, Hodges Street ..	Probably from cold ..	Yard flagged, water closet.
36, Barton Street (P.) ..	Probably from cold ..	Yard paved, privy midden.
12, Wenlock Street (P.) ..	Accident ..	Yard part flagged and bricked, privy midden.
21, Clapgate Lane (P.) ..	Probably from cold ..	Yard part flagged, privy midden.
2, Elizabeth Street ..	Accident ..	Yard flagged, water closet.
21, Russell Street ..	Probably from cold ..	Yard part flagged, pail closet.
101, Wrightington Street ..	Probably from cold ..	Yard flagged, pail closet.
83, Billinge Road (P.) ..	Patient suffered from Dropsy.	Yard part flagged, privy midden.
90, Miry Lane ..	From scratch ..	Yard part bricked, pail closet.

LIST OF HOUSES IN WHICH CASES OF ERYSIPELAS HAVE OCCURRED DURING 1907.

<i>Address.</i>	<i>Cause.</i>	<i>Condition of Yards and Other Remarks.</i>
8, Bedford Street ..	Probably from cold ..	Yard paved, pail closet.
3, Holland Street ..	Probably from cold ..	Yard unpaved, pail closet. Patient has suffered from this complaint several times.
72, Back Scot Lane (P.) ..	Probably from cold ..	Yard flagged, privy midden.
21, Clapgate Lane (P.) ..	Probably from cold ..	Yard part flagged, privy midden.
61, Poolstock Lane (P.) ..	Probably from cold ..	Yard part flagged, privy midden.
88, Ormskirk Road (P.) ..	Probably from cold ..	Yard flagged, privy midden.
4, Sayer's Yard, Scholes ..	From sore. ..	Yard flagged, pail closet.
308, Whelley ..	Probably from cold ..	Yard flagged, pail closet.
40, Orpington Street (P.) ..	Probably from cold ..	Yard part flagged, privy midden.
133, Platt Lane ..	Probably from cold ..	Yard part paved, passage in front unpaved, pail closet
11, Newark Street ..	Accident ..	Yard flagged, pail closet.
19, Earl Street ..	Probably from Eczema ..	Yard part flagged, pail closet.
5, Teck Street ..	Probably from cold ..	Yard unpaved, pail closet.
6, Drake Street ..	Probably from cold ..	Yard part flagged, pail closet.
3, Belmont Street (P.) ..	Probably from cold ..	Yard flagged, privy midden.
34, Lower Morris Street ..	Accident. ..	Yard flagged, pail closet.
2, Douglas Terrace (P.) ..	Probably from cold ..	Yard flagged, privy midden.
12, Lorne Street ..	Probably from cold ..	Yard flagged, pail closet.
10, Platt Lane ..	Accident ..	Yard flagged, water closet.
253, Billinge Road (P.) ..	Probably from cold ..	Yard paved, privy midden.
19, Woodford Street (P.) ..	Accident ..	Yard part flagged, privy midden.
21, Clapgate Lane (P.) ..	Probably from cold ..	Yard part flagged, privy midden.
55, Beech Hill Lane ..	Probably from cold ..	Yard flagged, pail closet.
2, Douglas Terrace (P.) ..	Probably from cold ..	Yard flagged, privy midden. Patient had previously suffered from this complaint.



LIST OF HOUSES IN WHICH CASES OF ERYSIPELAS HAVE OCCURRED DURING 1907.

<i>Address.</i>	<i>Cause.</i>	<i>Condition of Yards and Other Remarks.</i>
14, Hardybutts .. ..	Probably from cold ..	Yard flagged, pail closet.
163, Wigan Lane .. ..	Probably from cold ..	Yard flagged, pail closet.
SANATORIUM .. ..	.. ..	.. ..
3, Mariebonne Place .. ..	Probably from cold ..	Yard flagged, pail closet.
282, Billinge Road (P.) .. ..	Accident .. ..	Yard paved, privy midden.
Bay Horse, Hallgate .. ..	Probably from cold ..	Yard flagged, water closet.
289, Wallgate .. ..	Probably from cold ..	Yard flagged, pail closet.
7, Douglas Street (P.) .. ..	Probably from cold ..	Yard paved, privy midden.
2, Johnson's Yd., Brook Lane (P.) .. ..	Accident .. ..	Yard flagged, privy midden.
5, Miry Lane .. ..	Probably from cold ..	Yard flagged, pail closet.
1, Summersale (P.) .. ..	Probably from cold ..	Yard unpaved, privy midden.
3, Stopforth Street .. ..	Probably from cold ..	Yard flagged, pail closet.
61, Beech Hill Lane .. ..	Probably from cold ..	Yard flagged, pail closet.
41, Darlington Street .. ..	Probably from cold ..	Yard flagged, pail closet.
2, St. Ann's Square .. ..	Probably from cold ..	Yard flagged, pail closet.
4, Powell's Yard, Church Street .. ..	Probably from cold ..	Yard flagged, pail closet.
263, Billinge Road (P.) .. ..	Probably from cold ..	Yard flagged, privy midden.
10, Greenough Street .. ..	Probably from cold ..	Yard part flagged, pail closet.
12, Withnall Street .. ..	From fall. .. ..	Yard flagged, pail closet.
10, Canal Street .. ..	Probably from cold ..	Yard paved, water closet.
48, Kendal Street .. ..	Probably from cold ..	Yard asphalted, water closet.
10, Chadwick Street .. ..	Probably from cold ..	Yard flagged, pail closet.
17, Richmond Street (P.) .. ..	Probably from cold ..	Yard part flagged, privy midden.
11, Wilcock Street .. ..	Probably from cold ..	Yard flagged, pail closet.
22, Fitzadam Street .. ..	Probably from cold ..	Yard paved, water closet.
103, Billinge Road (P.) .. ..	Probably from cold ..	Yard part flagged, privy midden.
24, Cross Street .. ..	Probably from cold ..	Yard flagged, pail closet.
43, Adelaide Street .. ..	Accident .. ..	Yard paved, pail closet.
28, Whelley .. ..	Probably from cold ..	Yard flagged, water closet.

## PUERPERAL FEVER.

Number of cases notified	...	...	8
Number of deaths	...	...	5
Mortality per 1,000 of population	...	...	·055

We have a decrease in the number of cases notified, but an increase in the death-rate. None of the cases appear to have been communicated, and everything was done to prevent communication with others.

## SANATORIUM.

The arrangements made in the nursing department have been satisfactory, and the accommodation ample.

The Doecker Hospital is sufficient for the Small Pox cases, and the improvements made, on its removal from the old site, have been of great advantage.

We have treated 20 cases during the year, chiefly Measles and Chicken Pox at the Pemberton Hospital.

The number of infectious cases notified compulsorily is as follows :—

	Notifications.	Removed to Sanatorium.	Died in Sanatorium.
Small Pox ... ..	—	—	—
Typhus ... ..	—	—	—
Scarlet Fever ... ..	175	95 2*	5
Enteric ... ..	107	78 6*	16 1*
Diphtheria ... ..	66	2	—
Puerperal Fever ... ..	8	—	—
Cholera ... ..	—	—	—
Membranous Croup..	—	—	—
Erysipelas ... ..	77	—	—
Other ... ..	—	32	—
Total .. ..	433	207	21

In the Sanatorium on December 31st, 1907, there were 17 patients, namely, Scarlet Fever 12, Enteric Fever 5, others 0.

\*Aspull cases.

	Small-pox.	Scarlet.	Enteric.	Others.	Total.
In-patients Jan. 1, '07	—	12	5	0	17
Admitted in 1907 ...	—	95	78	14	187
Discharged „ ...	—	88	60	13	161
Died „ ...	—	5	16	0	21
In-patients Jan. 1, '08	—	14	7	1	22

The number of deaths in the Sanatorium was 21 ; 5 died from Scarlet Fever and 16 from Enteric.

During the year there were 161 patients discharged, and 21 died, making a total of 182.

The number of days they were in was 6,411, or 35·3 days for each patient, against 39·2 days average for 1906.

The cost of maintenance was as follows :—

1907.				Food.			Stimulants.		
				£	s.	d.	£	s.	d.
January	...	...	...	19	13	10	3	7	3
February	...	...	...	27	2	4	7	12	11
March	...	...	...	25	1	3	3	2	3
April	...	...	...	35	1	10	7	16	4
May	...	...	...	38	16	4	3	5	7
June	...	...	...	31	1	8	3	14	10
July	...	...	...	21	6	3	2	6	9
August	...	...	...	15	1	10	6	1	4
September	...	...	...	21	10	9	13	18	0
October	...	...	...	21	0	10	9	6	11
November	...	...	...	28	16	10	7	2	0
December	...	...	...	19	8	0	4	9	6
Total	...	...	...	304	1	9	72	3	8

			£	s.	d.		£	s.	d.
Cost per patient,	1907	...	1	13	4 $\frac{3}{4}$	...	0	7	11
„	1906	...	1	15	7	...	0	9	5 $\frac{1}{2}$
„	1905	...	1	9	0 $\frac{3}{4}$	...	0	7	8 $\frac{1}{2}$
„	1904	...	1	7	1	...	0	8	1
„	1903	...	1	12	0	...	0	4	7
„	1902	...	1	13	0	...	0	4	9
„	1901	...	1	9	1 $\frac{1}{4}$	...	0	4	10 $\frac{1}{4}$
„	1900	...	1	12	6 $\frac{3}{4}$	...	0	4	3 $\frac{1}{2}$
„	1899	...	1	12	4 $\frac{1}{2}$	...	0	5	1 $\frac{1}{4}$
„	1898	...	1	8	6 $\frac{1}{4}$	...	0	3	11 $\frac{1}{2}$



The total cost of the Sanatoria (Wigan and Pemberton), 194 patients, is as follows :—

	£ s. d.			Average Cost per Patient.		
	£	s.	d.	£	s.	d.
Master, Matron, and Nurses.....	975	9	7	5	0	6 <sup>3</sup> / <sub>4</sub>
Porter, Repairs, &c.....	918	1	3	4	14	7 <sup>1</sup> / <sub>2</sub>
Patients' Keep.....	304	1	9	1	13	4 <sup>3</sup> / <sub>4</sub>
Stimulants .....	72	3	8	0	7	11
Medical Superintendent.....	150	0	0	0	15	5 <sup>1</sup> / <sub>2</sub>
Clerk .....	10	0	0	0	1	0 <sup>1</sup> / <sub>4</sub>
<hr/>						
Ditto 1907.....	2429	16	3	12	10	5 <sup>3</sup> / <sub>4</sub>
„ 1906.....	2599	16	9	11	2	2 <sup>1</sup> / <sub>2</sub>
„ 1905.....	2836	14	4	8	18	4 <sup>3</sup> / <sub>4</sub>
„ 1904.....	2299	12	7	12	1	11 <sup>1</sup> / <sub>2</sub>
„ 1903.....	2352	10	11	7	7	5 <sup>1</sup> / <sub>2</sub>
„ 1902.....	2101	5	11	6	19	0 <sup>3</sup> / <sub>4</sub>
„ 1901.....	1992	9	6	9	6	5 <sup>3</sup> / <sub>4</sub>
„ 1900.....	2038	14	11	7	5	6
„ 1899.....	1914	12	4	7	4	6 <sup>3</sup> / <sub>4</sub>
„ 1898.....	1851	3	11	7	16	2 <sup>1</sup> / <sub>2</sub>
„ 1897.....	1384	4	7	10	12	3 <sup>1</sup> / <sub>2</sub>
„ 1896.....	1653	10	11	11	6	6 <sup>3</sup> / <sub>4</sub>

The Administrative Department cost :—

1907.	Wages.			Board.			Total.		
	£	s.	d.	£	s.	d.	£	s.	d.
January .....	41	6	8	43	15	8	85	2	4
February .....	39	18	4	43	15	8	83	14	0
March .....	40	15	0	43	15	8	84	10	8
April.....	40	15	0	43	15	8	84	10	8
May .....	40	15	0	41	15	8	82	10	8
June .....	40	18	4	37	15	8	78	14	0
July .....	39	13	4	38	2	4	77	15	8
August.....	39	13	4	39	2	4	78	15	8
September .....	38	1	8	36	19	0	75	0	8
October .....	40	1	3	42	9	4	82	10	7
November .....	39	10	0	41	12	4	81	2	4
December.....	39	10	0	41	12	4	81	2	4
Total.....£	480	17	11	494	11	8	975	9	7

SANATORIUM STAFF.

Master	2 Ward Maids.
House Keeper.	1 Housemaid-Waitress.
5 Nurses.	1 Kitchenmaid.
5 Probationers.	1 Scullery Maid.
1 Laundress.	1 Porter and Gardener.
2 Assistant Laundresses.	1 Assistant Gardener.

PEMBERTON SANATORIUM.

1 Nurse.	1 Caretaker.
----------	--------------

# WIGAN SANATORIUM.—TABLE OF ADMISSIONS AND DISCHARGES FOR 1907.

89

1907.	Admitted.						Discharged.						Died.					
	Small-pox.	Scarlet Fever.	Enteric.	Typhus.	Others.	Total.	Small-pox.	Scarlet Fever.	Enteric.	Typhus.	Others.	Total.	Small-Pox.	Scarlet Fever.	Enteric.	Typhus.	Others.	Total.
January .....	0	11	8	0	0	19	0	10	4	0	0	14	0	1	1	0	0	2
February ...	0	11	3	0	1	15	0	4	5	0	0	9	0	0	2	0	0	2
March.....	0	12	5	0	2	19	0	15	1	0	3	19	0	0	1	0	0	1
April .....	0	13	6	0	1	20	0	9	4	0	1	14	0	2	4	0	0	6
May.....	0	9	5	0	0	14	0	14	6	0	0	20	0	0	0	0	0	0
June .....	0	3	5	0	0	8	0	10	3	0	0	13	0	0	1	0	0	1
July .....	0	6	5	0	2	13	0	6	6	0	2	14	0	0	0	0	0	0
August .....	0	4	10	0	0	14	0	2	6	0	0	8	0	1	2	0	0	3
September...	0	3	11	0	1	15	0	6	9	0	0	15	0	0	0	0	0	0
October .....	0	7	5	0	3	15	0	1	8	0	2	11	0	1	3	0	0	4
November ...	0	9	5	0	3	17	0	9	2	0	1	12	0	0	1	0	0	1
December ...	0	7	10	0	1	18	0	2	6	0	4	12	0	0	1	0	0	1
Total .....	0	95	78	0	14	187	0	88	60	0	13	161	0	5	16	0	0	21

PEMBERTON SANATORIUM

Month.	Admitted.				Total.	Discharged.				Total.	Died.				Total.
	Diph-theria.	Measles	Chick'n Pox.	Others.		Diph-theria.	Measles	Chick'n Pox.	Others.		Diph-theria.	Measles	Chick'n Pox.	Others.	
January .....	—	4	—	—	4	—	—	—	—	—	—	—	—	—	
February .....	2	—	—	—	2	—	4	—	—	4	—	—	—	—	
March .....	—	2	—	—	2	2	2	—	—	4	—	—	—	—	
April .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
May .....	—	3	—	—	3	—	—	—	—	—	—	—	—	—	
June .....	—	—	—	—	—	—	3	—	—	3	—	—	—	—	
July .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
August .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
September .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
October .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
November .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
December .....	—	—	9	—	9	—	—	—	—	—	—	—	1	1	
Total .....	2	9	9	—	20	2	9	—	—	11	—	—	1	1	

In on 1st of January, 1908, 8 cases of Chicken Pox.  
During the year there were 11 patients discharged, and one died, making a total of 12. The number of days they were in was 263, or 21.1 days for each patient.



## CONSTITUTIONAL DISEASES.

### TUBERCULAR DISEASES.

Under the heading of Tubercular Diseases we include deaths from Consumptive Diseases, such as Phthisis Pulmonalis, Tabes Mesenterica, Tubercular Meningitis, Wasting Diseases of Infants (Marasmus), and other Tubercular affections.

The number of deaths from Phthisis is 84, against 108 in 1906, and 92 in 1905. The number of deaths from other Tubercular affections is 38, against 40 in 1906, and 37 in 1905.

From Wasting Diseases of Infants we have 45 deaths, against 45 in 1906.

The rates are as follows :—

Phthisis Pulmonalis .....	·92	per 1,000 of population.
Other Tubercular Diseases. ·41	„	
Wasting Diseases of Infants ·49	„	

If taken together as Tubercular affections we have 167 deaths, or a rate of 1·83 per 1,000 of population.

### PHTHISIS AND TUBERCULAR DISEASES, BUT NOT INCLUDING MARASMUS.

The deaths occurred in the following wards :—

St. George Ward	...	...	...	...	5
Lindsay Ward ...	...	...	...	...	4
St. Catharine Ward	...	...	...	...	10
St. Patrick Ward	...	...	..	...	12
St. Thomas Ward	...	...	...	...	13
Poolstock Ward	...	...	...	...	9
Victoria Ward ...	...	...	...	...	8
St. Andrew Ward	...	...	...	...	6
Swinley Ward ...	...	...	...	...	7
All Saints Ward	...	...	...	...	3
West Pemberton Ward	...	...	...	...	8
North „ „	...	...	...	...	13
Central „ „	..	...	...	...	8
South „ „	...	...	..	...	8
In Union Workhouse but belonging to Wigan					8

## PHTHISIS DEATHS, 1907.

No. of Cases, 84.

Deaths previously of the same disease (brothers or sisters)	...	8
„ (parents or relations)	...	11
No. of cases where separate bedroom occupied	... ..	21
„ „ bed but others in the same room	...	10
„ others occupying the same bed	... ..	39
„ others occupying the same room	... ..	41
„ which cannot be traced	.. ...	13
Total number of sleeping rooms of houses affected	... ..	162
„ living rooms of houses affected	... ..	155
„ persons occupying the same	.. ...	37
No. of cases where lodgers kept (overcrowding)	... ..	8
No. of back to back houses	... ..	2
No. where sanitary defects found	... ..	4
No. of cases where house found dirty	... ..	6
„ patient occupied a cradle	... ..	2
„ patient died in institutions	... ..	8

## PHTHISIS DEATHS.

### OCCUPATIONS OF DECEASED PERSONS.

Weaver	...	3
Spinner	...	3
Labourer	...	3
Carter	...	1
Miner	...	6
Fireman in Mine	...	1
Scholar	...	4
Domestic	...	23
Young Children	...	12
Hairdresser	...	2
Tailoress	...	2
Baker	...	1
Fitter	...	1
Milliner	...	1
Saddler	...	1
Tailor	...	1
Hawker	...	2
Storekeeper	..	1
'Bus Driver	...	1
Factory Hand	..	2
Not ascertained	.. ...	13

## DEATHS AND RATES FROM PHTHISIS FOR PAST YEARS.

Year.		No. of Deaths.		Rate per 1,000.
1896	.....	66	.....	1·09
1897	.....	69	.....	1·14
1898	.....	59	.....	·93
1899	.....	59	.....	·94
1900	.....	69	.....	1·09
1901	.....	73	.....	1·18
1902	.....	55	.....	·89
1903	.....	74	.....	1·1
1904	.....	70	.....	1·08
1905	.....	92	.....	1·04
1906	.....	108	.....	1·20
1907	.....	84	.....	·92

## RHEUMATISM.

Rheumatism caused 12 deaths, against 8 deaths in 1906 and 12 in 1905, and we have 101 deaths from heart affections, against 91 in 1906, and 83 in 1905.

## LOCAL DISEASES.

Respiratory Diseases, such as Pneumonia and Bronchitis, caused 402 deaths, against 345 in 1906. Pneumonia caused 233, against 203 ; and Bronchitis caused 169, against 142.

## INQUESTS AND UNCERTIFIED DEATHS.

The number of inquests for 1907 is 136, against 123 for 1906, and 119 in 1905, and the following verdicts have been recorded :—



1.	Natural causes	...	...	...	...	55
2.	Accidents, burnt	...	...	...	...	12
	„ tram car	...	...	...	...	4
	„ run over	...	..	...	...	1
	„ scalded	..	...	...	...	3
	„ colliery	...	...	...	...	17
	„ fall downstairs		...	...	...	1
	„ drowned	...	...	...	...	5
	„ falls	...	...	...	...	10
	„ railway	...	...	...	...	4
	„ overlaid	...	...	...	...	2
	„ poisoned	...	..	...	...	1
	„ motor car	...	...	...	...	1
	„ explosion	...	...	...	...	1
	„ machinery	...	...	...	...	2
	„ others	...	..	...	...	1
3.	Suicides, hanging	...	...	...	...	1
	„ drowning	...	...	...	...	1
	„ poisoning	...	...	...	...	1
	„ jumping through window			...	...	1
4.	Others	...	...	...	...	12

---

136

---

There were no uncertified deaths in 1907, against 14 in 1906, and 10 in 1905.

## **PART III.**

# **General Sanitary Work.**

---

**FACTORY AND WORKSHOP ACT, 1901**

**SHOP HOURS ACTS, 1892 TO 1899**

**SHOP HOURS ACT, 1904, CLOSING ORDER**

**MEAT INSPECTION AND SLAUGHTER HOUSES**

**DAIRIES, COWSHEDS AND MILKSHOPS ORDER, 1885 & 1886**

**WATER SUPPLY AND RAINFALL**

**BLACK SMOKE NUISANCE**

**PROPERTY UNFIT FOR HUMAN HABITATION**

**UNPAVED YARDS AND PASSAGES**

**BOROUGH SURVEYOR'S DEPARTMENT**

**SCAVENGING**

**MIDWIVES ACT, 1902**

**NOTIFICATION OF BIRTHS ACT, 1907**

**EDUCATION ACT, 1902, 1904**

**PUBLIC ANALYST REPORT**

**APPENDIX**





## FACTORY AND WORKSHOP ACT, 1901.

The Workshops have been regularly and systematically visited by Inspector Bishop, also the Factories, on receipt of report from H.M. Inspectors. I subjoin Inspector Bishop's report on the same, also his report on the Shop Hours Acts of 1892-1899, and Closing Order, 1904.

### 1.—INSPECTION.

Premises.	No. of Inspections.	No. of Written Notices.
Factories (including Factory Laundries) ..	330	14
Workshops (including Workshop Laundries) .	1,127	61
Workplaces .. .. .	—	—
Total .. .. .	1,457	75

### 2.—DEFECTS FOUND.

Particulars.	No. of Defects Found.	No. of Defects Remedied.
<i>Nuisances under Public Health Acts :</i>		
Want of Cleanliness .. .. .	38	37
Want of Ventilation .. .. .	—	—
Overcrowding .. .. .	—	—
Want of Drainage of Floors .. .. .	1	1
Other Nuisances .. .. .	18	17
Sanitary { insufficient .. .. .	32	10
Accom- { unsuitable or defective .. .. .	42	25
modation { not separate for sexes .. .. .	4	4
<i>Offences under the Factory and Workshop Act :</i>		
Illegal occupation of underground bakehouse ..	—	—
Breach of special sanitary requirements for bakehouses	79	72
Other Offences .. .. .	16	14
Total .. .. .	230	180

## 3.—HOME WORK.

Nature of Work.	OUTWORKERS' LISTS, SECTION 107.					
	Lists Received from Employers.				Numbers of Addresses of Out-workers received from other Councils.	Numbers of Addresses of Out-workers forwarded to other Councils.
	Twice in the year.		Once in the year.			
	Lists.	Out-workers.	Lists.	Out-workers.		
Wearing Apparel :						
(1) Making, &c. ..	60	174	17	40	7	24
(2) Cleaning, &c. ..	—	—	—	—	—	—
Number of Inspections of Outworkers' Premises, 161.						

## 4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.	Number.
Workshops .. .. .	413
Bakehouses .. .. .	153
Domestic Workshops (not Outworkers) .. .. .	76
Total Number of Workshops on Register .. .. .	642

## 5.—OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories:—	
Failure to affix Abstract of the Factory and Workshop Act (s. 133) .. .. .	41
Notified by H.M. Inspector .. .. .	24
Reports (of action taken) sent to H.M. Inspector .. .. .	24
Other .. .. .	—
Underground Bakehouses (s. 101):—	
Certificates granted during the year .. .. .	—
In use at the end of the year .. .. .	9

LIST OF WORKSHOPS UNDER THE FACTORY AND  
WORKSHOPS' ACT, 1901.

<i>Address.</i>	<i>Trade.</i>	<i>Address.</i>	<i>Trade.</i>
1.—9, Standishgate	Tailor.	56.—Crawford House	Dressmaker.
2.—114, Standishgate	„	57.—Dawber's Terrace	„
3.—134, Standishgate	„	58.—7, Standishgate	„
4.—55, Standishgate	„	59.—11, Standishgate	„
5.—107, Standishgate	„	60.—1, Church Street	„
6.—Royal Oak Yard	„	61.—12, Wigan Lane	„
7.—1, Church Street	„	62.—6, Wigan Lane	„
8.—37, New Market Street	„	63.—30, Wigan Lane	„
9.—42, Wigan Lane	„	64.—138, Wigan Lane	„
10.—57, Mesnes Street	„	65.—23, Wigan Lane	„
11.—27, Mesnes Street	„	66.—24, Baron Street	„
12.—71, Spring Street	„	67.—29, Mesnes Street	„
13.—22, Bold Street	„	68.—142, Park Road	„
14.—10, Library Street	„	69.—86, Park Road	„
15.—55, Library Street	„	70.—84, Park Road	„
16.—19, King Street	„	71.—7, Library Street	„
17.—30, King Street	„	72.—11, Library Street	„
18.—38, King Street	„	73.—36, Dicconson Street	„
19.—11, Dicconson Street	„	74.—3, Dicconson Terrace	„
20.—27, Dicconson Street	„	75.—2, Pitt Street	„
21.—74, Dicconson Street	„	76.—21, Market Place	„
22.—12, Dicconson Street	„	77.—25, Millgate	„
23.—42, Dicconson Street	„	78.—36, Swan Meadow Road	„
24.—Brick Kiln Lane	„	79.—120, Chapel Lane	„
25.—10, Crompton Street	„	80.—85, Corporation Street	„
26.—Crompton Street.	„	81.—51, Corporation Street	„
27.—29, Market Place	„	82.—50, Pool Street	„
28.—21, Hallgate	„	83.—108, Pool Street	„
29.—54a, Market Street	„	84.—70, Pool Street	„
30.—10, Market Street	„	85.—116, Hardybutts	„
31.—80, Market Street	„	86.—4, Hardybutts	„
32.—56a, Market Street	„	87.—35, Hardybutts	„
33.—54, Millgate	„	88.—211, Gidlow Lane	„
34.—130, Gidlow Lane	„	89.—265, Gidlow Lane	„
35.—10, Worsley Terrace	„	90.—10, Delph Street	„
36.—89, Greenough Street	„	91.—15, Hodges Street	„
37.—22, Greenough Street	„	92.—21, Hodges Street	„
38.—20, Rodney Street	„	93.—1, Westmoreland Street	„
39.—90, Darlington Street East	„	94.—4, Worsley Terrace	„
40.—15, Queen Street	„	95.—73, Greenough Street	„
41.—Pennyhurst Mill	„	96.—37, Greenough Street	„
42.—290, Wallgate	„	97.—2, Turner Street	„
43.—Coffee House	„	98.—41, Richmond Street	„
44.—113, Wallgate	„	99.—5, Dorning Street	„
45.—1, Wallgate	„	100.—185, Dorning Street	„
46.—Meek's Buildings	„	101.—6, Great George Street	„
47.—Barracks Yard	„	102.—13, Charles Street	„
48.—Meek's Buildings	„	103.—13, Duke Street	„
49.—2, Scholes	„	104.—96, Barnsley Street	„
50.—18, Makinson Arcade	„	105.—57, Springfield Road	„
51.—832, Ormskirk Road (P.)	„	106.—12, Whelley	„
52.—737, Ormskirk Road (P.)	„	107.—11, Whelley	„
53.—788, Ormskirk Road (P.)	„	108.—118, Darlington Street East	„
54.—793, Ormskirk Road (P.)	„	109.—163, Darlington Street East	„
55.—Spencer's Fold (P.)	„	110.—142, Darlington Street East	„



WORKSHOPS UNDER THE FACTORY AND WORKSHOPS' ACT.—*Continued.*

<i>Address.</i>	<i>Trade.</i>	<i>Address.</i>	<i>Trade.</i>
111.—170, Darlington Street East	Dressmaker	166.—44, Wallgate	Milliner
112.—121, Darlington Street East	„	167.—70, Wallgate	„
113.—49, Frog Lane	„	168.—158, Wallgate	„
114.—24, Darlington Street	„	169.—164, Wallgate	„
115.—36, Darlington Street	„	170.—Woodcock Street	„
116.—19, Vauxhall Road	„	171.—163, Scholes	„
117.—2, Holme Street	„	172.—56, Scholes	„
118.—232, Wallgate	„	173.—74, Scholes	„
119.—10, Ratcliffe Street	„	174.—164, Scholes	„
120.—45, Scholes	„	175.—176, Scholes	„
121.—71, Scholes	„	176.—154, Scholes	„
122.—47, Scholes	„	177.—Market Hall	„
123.—20, Makinson Arcade	„	178.—35, Market Hall	„
124.—118, Woodhouse Lane	„	179.—57, Market Hall	„
125.—26, Poolstock Lane	„	180.—8, Makinson Arcade	„
126.—40, Poolstock Lane	„	181.—15, Makinson Arcade	„
127.—55, Billinge Road (P.)	„	182.—4, Fleet Street (P.)	„
128.—54, Enfield Street	„	183.—739, Ormskirk Road (P.)	„
129.—91, Ormskirk Road (P.)	„	184.—587, Ormskirk Road (P.)	„
130.—294, Ormskirk Road (P.)	„	185.—127, Ormskirk Road (P.)	„
131.—835, Ormskirk Road (P.)	„	186.—745, Ormskirk Road (P.)	„
132.—710, Ormskirk Road, (P.)	„	187.—405, Warrington Road (P.)	„
133.—646, Ormskirk Road (P.)	„	188.—9, Greenough Street	Ca
134.—695, Ormskirk Road (P.)	„	189.—Market Place	Underclothing
135.—305, Ormskirk Road (P.)	„	190.—7, Millgate	„
136.—11, Duke Street (P.)	„	191.—31, Millgate	„
137.—13, Duke Street (P.)	„	192.—14, Greenough Street	„
138.—289, Warrington Road (P.)	„	193.—16, Greenough Street	„
139.—305, Warrington Road (P.)	„	194.—20, Greenough Street	„
140.—Woodbine Cottage (P.)	„	195.—11, Orchard Street	„
141.—34, Poolstock	„	196.—72, Darlington Street	„
142.—15, Poolstock	„	197.—Pennyhurst Mill	„
143.—33, Rylands Street	„	198.—124, Wallgate	„
144.—6, Standishgate	Milliner.	199.—91, Wallgate	„
145.—Crawford House	„	200.—Barracks Yard	„
146.—50, Standishgate	„	201.—Rowbottom Square	„
147.—7, Standishgate	„	202.—70, Scholes	„
148.—35, Standishgate	„	203.—90, Scholes	„
149.—44, Standishgate	„	204.—108, Scholes	„
150.—1, Church Street	„	205.—21, Makinson Arcade	„
151.—38, Wigan Lane	„	206.—6, Makinson Arcade	„
152.—46, Wigan Lane	„	207.—178, Woodhouse Lane	„
153.—21, Mesnes Street	„	208.—15, Fleet Street (P.)	„
154.—35, Mesnes Street	„	209.—9, Wood's Grove	„
155.—7, Library Street	„	210.—31, Brackley Street (P.)	„
156.—6, Library Street	„	211.—76, Ormskirk Road (P.)	„
157.—23, Market Place	„	212.—1, White Street (P.)	„
158.—48, Market Place	„	213.—68, Standishgate	Boot repair
159.—132, Chapel Lane	„	214.—33, Standishgate	„
160.—25, Hodges Street	„	215.—Powell Street	„
161.—16, Schofield Lane	„	216.—45, Wigan Lane	„
162.—21, Frog Lane	„	217.—79, Wigan Lane	„
163.—7, Darlington Street	„	218.—73, Wigan Lane	„
164.—4, Darlington Street	„	219.—103, Wigan Lane	„
165.—Moot Hall	„	220.—17, Mesnes Street	„

WORKSHOPS UNDER THE FACTORY AND WORKSHOPS' ACT.—*Continued.*

<i>Address.</i>	<i>Trade.</i>	<i>Address.</i>	<i>Trade.</i>
1.—57, Park Road	Boot Repairs.	276.—72, Schofield Lane	Cloggers.
2.—Park Road	"	277.—53, Miry Lane	"
3.—2, King Street	"	278.—33, Platt Lane	"
4.—19, Market Place	"	279.—Lord Street	"
5.—34, Market Place	"	280.—9, Wiend	"
6.—76, Hallgate	"	281.—60, Whelley	"
7.—62, Market Street	"	282.—69, Whelley	"
8.—52, Millgate	"	283.—31, Whelley	"
9.—22, Millgate	"	284.—2, Cambridge Street	"
10.—37, Chapel Lane	"	285.—11, Frog Lane	"
11.—72, Corporation Street	"	286.—138, Frog Lane	"
12.—86, Pool Street	"	287.—72, Frog Lane	"
13.—66, Pool Street	"	288.—31, Birkett Bank	"
14.—128, Gidlow Lane	"	289.—53, Queen Street	"
15.—Gidlow Lane	"	290.—74, Lime Street	"
16.—114, Schofield Lane	"	291.—146, Wallgate	"
17.—39, Greenough Street	"	292.—154a, Wallgate	"
18.—8, Greenough Street	"	293.—83, Scholes	"
19.—11, Greenough Street	"	294.—103, Scholes	"
20.—4, Orchard Street	"	295.—149, Scholes	"
21.—1, Wilton Street	"	296.—233, Scholes	"
22.—61, Darlington Street East	"	297.—245, Scholes	"
23.—116, Darlington Street East	"	298.—160, Scholes	"
24.—39, Darlington Street	"	299.—33, Scholes	"
25.—136, Wallgate	"	300.—113, Scholes	"
26.—12, Wallgate	"	301.—47, Woodhouse Lane	"
27.—174, Wallgate	"	302.—208, Woodhouse Lane	"
28.—175, Wallgate	"	303.—Martland Mill Bridge	"
29.—10, Wallgate	"	304.—224, Woodhouse Lane	"
30.—50, Wallgate	"	305.—105, Poolstock Lane (P.)	"
31.—104, Wallgate	"	306.—281, Billinge Road	"
32.—127, Woodhouse Lane	"	307.—175, Enfield Street	"
33.—22, Church Street	"	308.—37, Brackley Street	"
34.—1, Kendal Street	"	309.—92, Ormskirk Road	"
35.—1, Chapel Street	"	310.—831, Ormskirk Road	"
36.—1, Bridgewater Street	"	311.—411, Ormskirk Road	"
37.—819, Ormskirk Road (P.)	"	312.—425, Warrington Road	"
38.—809, Ormskirk Road (P.)	"	313.—12, Warrington Road	"
39.—814, Ormskirk Road (P.)	"	314.—102, Wigan Lane	Saddler.
40.—69, Ormskirk Road (P.)	"	315.—8, Mesnes Street	"
41.—131, Ormskirk Road (P.)	"	316.—17, Millgate	"
42.—152, Ormskirk Road (P.)	"	317.—5, Dorning Street	"
43.—397, Ormskirk Road (P.)	"	318.—90, Darlington Street	"
44.—240, Warrington Road (P.)	"	319.—53, Wallgate	"
45.—Norfolk Street (P.)	"	320.—2, Ormskirk Road (P.)	"
46.—9, Market Place	Clogger.	321.—Powell Street	"
47.—74, Millgate	"	322.—38, Standishgate	Jewellers.
48.—134, Chapel Lane	"	323.—46, Market Place	"
49.—110, Chapel Lane	"	324.—92, Millgate	"
50.—42, Corporation Street	"	325.—64, Millgate	"
51.—72, Byrom Street	"	326.—95, Greenough Street	"
52.—41, Hardybutts	"	327.—30, Wallgate	"
53.—110, Hardybutts	"	328.—13, Wallgate	"
54.—74, School Street	"	329.—76, Scholes	"
55.—87, Schofield Lane	"	330.—27, Makinson Arcade	"



WORKSHOPS UNDER THE FACTORY AND WORKSHOPS' ACT.—*Continued.*

<i>Address.</i>	<i>Trade.</i>	<i>Address.</i>	<i>Trade.</i>
331.—22, Standishgate	Plumber.	372.—28, King Street	Cycles.
332.—Barnsley Street	„	373.—72, Market Street	„
333.—166, Ormskirk Road (P.)	„	374.—94a, Greenough Street	„
334.—Crawford House	Cabinet Makers,	375.—25, Ormskirk Road	„
335.—76, Standishgate	„	376.—126, Chapel Lane	„
336.—King Street West	„	377.—292, Wallgate	Stockings.
337.—Soho Street	„	378.—33, Mesnes Street	„
338.—Douglas Side	„	379.—39, Library Street	Picture Framers.
339.—Douglas Side	„	380.—30, King Street	„
340.—Crompton Street	„	381.—29, Millgate	„
341.—Brick Kiln Lane	Shoeing Smith.	382.—34, Darlington Street	„
342.—89, Chapel Lane	„	383.—121, Ormskirk Road	„
343.—Platt Lane	„	384.—823, Ormskirk Road	„
344.—Coffee House Yard	„	385.—Crofters' Arms Yard	Cooper.
345.—Roe Buck Yard	„	386.—66, Millgate	Tin Plate Worker.
346.—Stanley Street	„	387.—Clayton Street	„
347.—Millgate	„	388.—Lord Street	„
348.—266, Wallgate	General Smith	389.—Pottery Road	„
349.—White Street	„	390.—182, Scholes	„
350.—Henhurst Mill	Wheelwright.	391.—6, Crompton Street	Wood Carver.
351.—Miry Lane	„	392.—Millgate	„
352.—Platt Lane	„	393.—44, Schofield Lane	Hard Confectioner.
353.—Darlington Street	„	394.—Great Acre	„
354.—Pottery Road	„	395.—Bishopgate	„
355.—218, Wallgate	„	396.—Neville Street	Bedding.
356.—Hartley Street	„	397.—Princess Street	Marine Stores.
357.—Chapel Street	„	398.—Henhurst Bridge	„
358.—Smithy Brook	„	399.—Douglas Street	„
359.—Powell Street	„	400.—72, Standishgate	Ice Cream.
360.—Little Lane (P.)	Ginger-beer.	401.—62, Greenough Street	„
361.—Douglas Street	„	402.—61, Darlington Street East	„
362.—King Street West	Bottling Stores.	403.—109, Warrington Lane	French Polisher.
363.—King Street	„	404.—24, Corporation Street	„
364.—18, Wigan Lane	Laundry.	405.—Watmough's Yard	Tripe Dresser.
365.—Mariebonne	„	406.—14, Scholes	„
366.—Holme Terrace	„	407.—Millgate Bridge	„
367.—Spencer's Fold	Nail Maker.	408.—17, Hope Street	Scales Repair.
368.—Gower Street (P.)	Soap Boiler.	409.—Off Hope Street	„
369.—166, Wallgate	„	410.—Bradshaw Street	Clay Pipe Maker.
370.—Douglas Street	„	411.—Wiend	Brush Manufacturer.
371.—Jackson's Square	Tallow Chandler.	412.—23, Makinson Arcade	Umbrella Repair.
		413.—Woodcock Street	Paper Box Maker.



## BAKEHOUSES.

The Bakehouses have been regularly visited, and when any nuisance has been discovered, notice has been served. The regulations as to limewashing, cleanliness, &c., have been enforced. The underground bakehouses have been kept in a sanitary condition.

### THE FOLLOWING IS A LIST OF BAKEHOUSES.

<i>Address.</i>	<i>Trade.</i>	<i>Address.</i>	<i>Trade.</i>
1.—217, Scholes	Baker.	46.—767, Ormskirk Road (P.)	Baker
2.—191, Scholes	„	47.—78, Ormskirk Road (P.)	„
3.—116, Scholes	„	48.—752, Ormskirk Road (P.)	„
4.—22, Scholes	„	49.—215, Ormskirk Road (P.)	„
5.—89, Scholes	„	50.—400, Ormskirk Road (P.)	„
6.—239, Scholes	„	51.—763, Ormskirk Road (P.)	„
7.—78, Scholes	„	52.—83, Ormskirk Road (P.)	„
8.—261, Scholes	„	53.—6, Warrington Road (P)	„
9.—3, Vauxhall Road	„	54.—73, Warrington Road (P)	„
10.—42, Whelley	„	55.—47, Billinge Road (P)	„
11.—30, Whelley	„	56.—19, Fleet Street (P)	„
12.—Leigh Street	„	57.—39, Fleet Street (P)	„
13.—Thompson Street	„	58.—9, Enfield Street (P)	„
14.—Appleton Street	„	59.—14, Chapel Street (P)	„
15.—16, Portland Street	„	60.—26, Chapel Street (P)	„
16.—142, Hardybutts	„	61.—72, Pool Street	„
17.—Boundary Street	„	62.—84, Pool Street	„
18.—118, Schofield Lane	„	63.—66, Corporation Street	„
19.—103, Schofield Lane	„	64.—32, Wellington Street	„
20.—61, Schofield Lane	„	65.—48, Northumberland Street	„
21.—88, Schofield Lane	„	66.—43a, City Road (P.)	„
22.—144, Chapel Lane	„	67.—349, Scot Lane (P.)	„
23.—Wood Street	„	68.—New Market Street	„
24.—25, Leader Street	„	69.—Kenyon Road	„
25.—62, Platt Lane	„	70.—46, Greenough Street	„
26.—Andrew Street	„	71.—62, Greenough Street	„
27.—Orchard Street	„	72.—Dorning Street	„
28.—39, Kirkless Street	„	73.—44, School Lane	„
29.—89, Wigan Lane	„	74.—26, Florence Street	„
30.—163, Wigan Lane	„	75.—47a, Scholes	„
31.—5, Pitt Street	„	76.—247, Scholes	Confectioner.
32.—119, Wallgate	„	77.—232, Scholes	„
33.—248, Wallgate	„	78.—237, Scholes	„
34.—176, Wallgate	„	79.—100, Scholes	„
35.—Millgate	„	80.—52, Scholes	„
36.—136, Frog Lane	„	81.—9, Chancery Street	„
37.—68, Frog Lane	„	82.—10a, Hardybutts	„
38.—160, Frog Lane	„	83.—18, Harrogate Street	„
39.—108, Frog Lane	„	84.—126, Chapel Lane	„
40.—45, Queen Street	„	85.—104, Park Road	„
41.—2, Warrington Lane	„	86.—87, Park Road	„
42.—59, Caroline Street	„	87.—102, Park Road	„
43.—54, Caroline Street	„	88.—142, Platt Lane	„
44.—61, Standishgate	„	89.—20, Vine Street	„
45.—18, Catherine Street	„	90.—86, Wigan Lane	„

BAKEHOUSES: *Continued.*

<i>Address.</i>	<i>Trade.</i>	<i>Address.</i>	<i>Trade.</i>
91.—59, Wigan Lane	Confectioner	118.—131, Ormskirk Road (P.)	Confectioner
92.—33, Market Place	„	119.—805, Ormskirk Road (P.)	„
93.—60, Market Place	„	120.—97, Ormskirk Road (P.)	„
94.—216, Wallgate	„	121.—119, Ormskirk Road (P.)	„
95.—54, Wallgate	„	122.—669, Ormskirk Road (P.)	„
96.—2, Pottery Road	„	123.—811, Ormskirk Road (P.)	„
97.—142, Gidlow Lane	„	124.—318, Ormskirk Road (P.)	„
98.—106, Gidlow Lane	„	125.—80, Ellesmere Road (P.)	„
99.—175, Gidlow Lane	„	126.—40, Victoria Street (P.)	„
100.—19, Mesnes Street	„	127.—25, Fleet Street (P.)	„
101.—23, Mesnes Street	„	128.—26, Darlington Street	„
102.—47, Mesnes Street	„	129.—42, Darlington Street	„
103.—65, Hodges Street	„	130.—53, Darlington Street	„
104.—217, Woodhouse Lane	„	131.—162, Darlington Street East	„
105.—162, Woodhouse Lane	„	132.—77, Darlington Street East	„
106.—Beech Hill Lane	„	133.—211, Darlington Street East	„
107.—69, Beech Hill Avenue	„	134.—419, Warrington Road (P.)	„
108.—37, Queen Street	„	135.—310, Warrington Road (P.)	„
109.—39, Queen Street	„	136.—447, Warrington Road (P.)	„
110.—75, Caroline Street	„	137.—700, Warrington Road (P.)	„
111.—10, Caroline Street	„	138.—213, Warrington Road (P.)	„
112.—34, Market Street	„	139.—19, Poolstock Lane (P.)	„
113.—66, Market Street	„	140.—111, Poolstock Lane (P.)	„
114.—129, Standishgate	„	141.—2, Kendal Street	„
115.—44, Standishgate	„	142.—4, Lorne Street	„
116.—120, Standishgate	„	143.—25, Greenough Street	„
117.—116, Standishgate	„	144.—10, Norfolk Street	„

## LIST OF UNDERGROUND BAKEHOUSES.

22, Earl Street.	32, Market Street.
36, Wigan Lane.	58, Market Street.
34, Wigan Lane.	10, Standishgate.
108, Wallgate.	Woodcock Street (at present not being used).
12, Wallgate.	



## SHOP HOURS ACTS, 1892—1899.

During the year one hundred and ninety-seven shops were visited during the day ; at seventeen no young persons were employed, and twenty-eight were domestic. At forty-two shops young persons were employed contrary to the Act, the Abstract not being exhibited. These were at once obtained after the Proprietors' attention had been called to the offence.

Two Proprietors were cautioned for employing young persons in shops after having worked under the Factory and Workshop Act during the day.

SEATS FOR SHOP ASSISTANTS ACT, 1899.—At shops visited this Act was being carried out.

At night observations were frequently taken to ascertain if the hours were being exceeded, but during the year there was no cause of complaint under Section 3 (1) of this Act.

---

## SHOP HOURS ACT, 1904.—CLOSING ORDER.

### HAIRDRESSERS' AND BARBERS' SHOPS.

The above Closing Order has received much attention during the year, as it is only by constant visiting that the times for closing are enforced. Four hundred and seventy-five day visits were made, and three hundred and forty-seven visits were made at night.

Nine letters have been sent to proprietors warning them for offences committed under this Act, one for admitting a customer after having closed.

Complaints have been received of several committing offences under the Order, and special observations have been taken.

Signed,

F. G. BISHOP,

Inspector.



## MEAT INSPECTION AND SLAUGHTER- HOUSES.

The Slaughter-houses have been regularly visited by the Inspectors. I have myself paid many visits when the Inspector has found food which was doubtful, more especially when tuberculosed meat was found. The condemnation of meat from tuberculosis is no doubt a delicate duty, but it would not be just, in my opinion, to condemn meat on this account unless one is satisfied that the beast has general tuberculosis. I subjoin copy of letter I received from the Local Government Board *re* "Diseased Cattle," also report on the outbreak of ptomaine poisoning in the Borough in January last year.

Local Government Board,

Whitehall, S.W.,

10th September, 1907.

Sir,

### DISEASED CATTLE.

I am directed by the Local Government Board to state that they have had under consideration various representations with respect to the sale for human food of diseased cattle, and especially of cows suffering from tuberculosis or other wasting disease. The Board understand that it is the practice of some dealers, though aware of the diseased condition of animals coming into their hands, so to dispose of them or their carcasses, that there is risk that they will be used for food for the poorer classes in London and other large towns.

The Board have reason to believe that the practice in question obtains to a considerable extent; and accordingly they are desirous of drawing the attention of local authorities to the matter, in order that they may as far as possible exercise supervision over the cattle in their districts with a view to anticipating, and so averting, possible or intended infringement of the law.

With this object, the local authority should instruct such of their officers as are engaged in administering the provisions of the Dairies, Cowsheds, and Milkshops Orders, to observe particularly the condition of the cows which come under their notice, and where any animal is clearly diseased and presumably unfit for food, to take such steps as are practicable to ensure that, in the event of the animal being slaughtered, the carcase is disposed of properly.

The Board would also suggest that the sanitary or other suitable officers of the local authority should be instructed to watch closely the cattle markets, slaughterhouses, and knackers' yards in the district, with the view of satisfying themselves that no animal, the condition of which appears to render it unfit for human consumption, is disposed of in such a manner that it is likely to be used for this purpose.

I am, Sir,

Your obedient Servant,

S. B. PROVIS,

Secretary.

The Town Clerk, Wigan.





*County Borough of Wigan.*



❧ REPORT ❧

ON

Stomach Poisoning

ARISING FROM

POTTED TONGUES.



HEALTH DEPARTMENT,

WIGAN,

February 12th, 1907.

# Report on Ptomaine Poisoning ARISING FROM POTTED TONGUES.

Information of some cases of Ptomaine Poisoning existing in the practice of several medical men was received on the 16th of January. Enquiries were made, and every facility afforded us. It was found, in the first instance, that all the cases arose from one source, namely, from potted tongues sold by a butcher at one of the stalls in the Market Hall, Wigan. In every case in which this particular tongue had been partaken of poisoning was produced, varying with more or less severity. The persons in the same house who had not partaken of this tongue escaped. It was bought on the 11th and 12th of January. The first cases we had information of was from a purchase made on the Saturday afternoon (January 12th), and eaten the same night. The symptoms appeared early in the morning of the 14th, 36 hours after consumption. These cases were severe, but recovered after three or four days' illness. After this information the butcher's stall was at once visited, and a thorough inspection of the shop and cellar (in which the pickling had been done) was made, and the remains of the unsold tongue taken possession of. Unfortunately, the brine tub had been emptied and cleaned, so we got no brine. The tongue taken was becoming putrid and smelling.

The particular tongues in question were placed in brine on Thursday and Saturday (January 3rd and 5th), kept in three or four days, then taken out on the Tuesday (January 8th), boiled on Wednesday, (January 9th), taken to the Market on Thursday (the 10th), to be ready for sale on the Friday.

The particular beef tongues were put in *tins*, and the pigs' tongues into an enamelled tin.

Only two tins of beef tongue were made, and were sent to the Market; and one tin of pigs' tongue; and these were sold only in the Darlington Street shop, along with *half a remaining tin* of beef tongue sent from the Market.

The weight of each tin of beef tongue would be about 20lb.; the weight of each tin of pigs' tongue about 12lb.

The brine in which the tongues were pickled had been thrown away. The iron receptacle at the Slaughter House, Darlington Street, used for the cooking of the tongues was emptied for inspection and found perfectly clean.



## PREPARATION OF POTTED TONGUES.

The beef tongues on arrival are as soon as possible (not longer than a day) put into brine; also the briskets of beef. The pigs' tongues are similarly treated. The pigs are slaughtered on the butchers' premises.

The beef and beef tongues are bought at Birkenhead. The pigs are from Ireland, and are brought over alive, and not kept many days before being slaughtered. Whilst the pigs are alive they are fed on barley meal. The brine tubs, five in number, are kept in a cellar under the Fish Market. In the cellar also are stored *Hams and Sides of Bacon* for salting. In one barrel are salted *briskets of Beef, for Pressed Pickled Beef, one small barrel in which is salted the pigs' and beef tongues*; in two other barrels are salted *pigs' heads* (one containing pigs' heads and beef, and in the other only pigs' heads). The brine is made by one of his men, and in the following manner:—Two buckets of salt to six buckets of water,  $\frac{3}{4}$  of a lb. of saltpetre, and half a handful of sugar. The brine should be emptied weekly. The tubs are cleaned thoroughly out and washed. The meat for salting is generally put in at the week-end, and taken out for cooking in three or four days, then taken to the Slaughter House and boiled in pans. There are four pans (double-cased) into which a pipe discharges steam from the boiler. On the very top of these pans there was a coating of grease and dirt, which had not been removed when the pans were cleaned. Each pan is cleaned out before and after boiling with hot water and soda. There are lids for these pans. *In the smallest of these pans the tongues only are boiled.* In each of the others are boiled lungs for "savoury ducks," pigs' heads, and bones, and pigs' heads and beef. The tongues are taken out and put into tins or earthenware jars and pressed and laid to cool. *Beef and pigs' tongues only are boiled together in the one pan.* *Pigs' tongues are put into a string net and placed in the pan with the beef tongues,* boiled for three hours. Afterwards the tongues are taken out, and put into tin or mug receptacles, pressed a little, and then allowed to cool. After a while the tongues are pressed again whilst in the receptacle, and then there is poured on hot jelly, obtained from the boiling of pigs' heads only. They are then cooled off. The tin and mug receptacles are cleansed and steamed before and after using.

After the tongues are boiled and put into the vessels, jelly, whilst hot, is poured on the pressed tongues and pigs' heads, which are either in tins or earthenware vessels. *The tins of tongues* are put on the floor of the Slaughter House, near the steps leading down into the cellar. The vessels with the pigs' head in are left to cool in a portion of the Slaughter House, partitioned off, and in which is situated the gas engine.

---

Samples of salt and brine (this being freshly made) were obtained. *The remainder of these tongues in question* were taken away; also one pig tongue and one beef tongue which had been in some other brine, and not the particular brine in which the other had been soaked;

and also one pig tongue and one beef tongue *after* cooking. The beef tongues were from the beasts killed at Birkenhead, and these are sent in bags.

The gullies are outside the Slaughter House, and were properly trapped earthenware ones. The surfaces round the same were good, with one exception.

---

From the information of the various medical men I find there have been 168 cases in 60 houses. Probably there have been mild cases in which no doctor was called. The cases occurred in Wigan, Adlington, Ince, Platt Bridge, Skelmersdale, and Standish.

The portion of two tongues and the uncooked cow's tongue I sent to the Pathological Department of Liverpool University, and I have received the following report from Dr. Warrington, F.R.C.P., Lond., who has charge of this department :—

“ The particulars of the samples were as follows :—

- 1.—Salt.
- 2.—Saltpetre.
- 3.—Cooked tongue in question. Separate pieces (*A*).
- 4.—Tongues after brining, but before cooking (pig and beef) (*B*).
- 5.—Tongues cooked specially by request (pig and beef) (*C*).

All the samples were examined for the presence or absence of organisms connected with Ptomaine Poisoning. Samples 1, 2, and 5 were free from *B. coli* or *B. enteritidis* (Gœrtner).

SAMPLE 4.—The *B. Coli communis* was isolated from the pig tongue, and a somewhat similar, but not identical, organism from the beef tongue.

SAMPLE 3.—This sample was in a bad state of preservation—the whole smelling badly. The interior had a far fresher smell. The smaller piece contained :—

1. An organism similar to *B. coli*.
2. *B. enteritidis* (Gœrtner).

The larger piece contained :—

*B. enteritidis* (Gœrtner).

The presents of *B. coli* and *B. enteritidis* are pathological, and may reasonably be assumed to be the cause of the symptoms produced.”



CONCLUSION.—Finding first the Salt, second the Saltpetre, and third the tongues, cooked by request, free from organisms, and fourth the tongues after brining (pig and beef) contained organisms allied to the *Bacillus Coli Communis*, as well as the portions of tongue which were decomposing contained similar organisms, and also the *Bacillus Enteritidis*, I can only conclude that the cause of the mischief has been the brine in which these tongues were placed. We had a few cases which arose from the pig tongues and also the brisket of beef which had been in the same brine, and sold at the Darlington Street shop. The reason why the pig tongues gave rise to fewer cases may have been by the different process of cooking. The contamination, however, appears to have been accidental. I can only surmise that the brine has not been changed each time a fresh lot of tongues have been put into the brine tub. I would suggest that in all cases where brining is to be done freshly prepared brine should be made in proper proportions of Salt, Sugar and Saltpetre, and placed in the brine tub; that the tongues and briskets of beef be put in and not disturbed till the proper period has elapsed for them to be taken out, or, better still, brined separately. Certainly, no fresh additions should be made to what has already been put in, and the same brine should not be used again. One tongue which might happen to contain pathological bacteria is sufficient to contaminate the whole lot.

I may say every facility was given to myself and the Staff of the Health Department to discover the cause of the epidemic.

I am, Gentlemen,

Your obedient Servant,

WM. BERRY,

Medical Officer of Health.



## DAIRIES, COWSHEDS, AND MILKSHOPS ORDER, 1885 AND 1886.

I subjoin Mr. Woods', Veterinary Inspector's, report :

Gentlemen,

In presenting my yearly report on the cowsheds and milch cows of the borough, I am glad to be able to state that there is now a more intelligent appreciation amongst the cowkeepers of the necessity for and the value of the Order, and a greater wish to conform to its very reasonable requirements, although there is considerable fear as to the effect of further legislation.

As showing the effect of the regulations, I may say that except for two doubtful cases, I have discovered no Tuberculosis of the udder amongst the cows in the town, although in by business I have been called to several cases in the surrouning districts where the Dairies and Cowsheds Order is not in force. The cleanliness of the milk supply within the borough is also improved, udders are kept cleaner, the milkers wash their hands before milking, and I believe that the system known as wet milking is almost if not quite abolished ; but while I have to say this for the borough, I am well aware that there is milk coming into the town produced under conditions which would almost prevent people ever touching milk as an article of diet, if they could see them—dirty houses in which the milk is stored, and dirty people to handle it. It is greatly to be desired that the Dairies and Cowsheds Order should be made to apply to all districts. It is pregnant with meaning that statistics are showing distinctly that in those districts which have adopted the Regulations there has been a steady decline in infantile mortality. A clean, pure milk supply is of inestimable value, but a more general education of the public is still necessary to impress upon them the fact that unless milk is carefully dealt with and kept covered and not in wide open vessels, it can very easily be contaminated and made dirty after delivery.

There still remain structural alterations to be made to several of the cowsheds, and I have a promise in three cases that these shall be done during the coming summer.

It is of course impracticable to enforce structural alterations in the winter.

I have again to acknowledge my indebtedness to the Medical Officer of Health, who has on several occasions cheerfully responded to my request that he should accompany me on visits where I thought his help would be useful in strengthening my hands.

Yours obediently,

WILLIAM WOODS.

## WATER SUPPLY.

The water supply has been continuous and of good quality, there has been no necessity to have a curtailment or intermittent supply, which is always dangerous.

The following are the reports on the analysis of the water :—

### WIGAN.

*January.*—Hardness before boiling 8·7 degrees ; after 5·95 degrees. These results do not differ materially from last month's analysis, which was satisfactory.

*February.*—Hardness before boiling 9·1 degrees ; after 5·8 degrees. This sample is very satisfactory and quite up to the usual standard.

*March.*—Hardness before boiling 9·0 degrees ; after 6·0 degrees. Very satisfactory and equal to an average month.

*April.*—Hardness before boiling 8·0 degrees ; after 5·4 degrees.  
A very satisfactory sample.

*May.*—Hardness before boiling 7·0 degrees ; after 5·75 degrees.  
This is a satisfactory sample in all respects

*June.*—Hardness before boiling 8·3 degrees ; after 5·8 degrees.  
Satisfactory sample ; equal to an average month.

*July.*—Hardness before boiling 7·7 degrees ; after 5·0 degrees  
This is quite a satisfactory sample and up to the usual standard.

*August.*—Hardness before boiling 7·5 degrees ; after 4·5 degrees.  
This is very satisfactory in all respects.

*September.*—Hardness before boiling 8·5 degrees , after 6·0 degrees. The permanent hardness (i.e. after boiling) is a little higher this month, and with regard to organic purity the water maintains its excellent average.

*October.*—Hardness before boiling 7·0 degrees ; after 4·0 degrees. The hardness is rather lower this month than usual. The albuminoid ammonia figure shows the supply to be organically purer than it has been for a long period. Very satisfactory in all respects.

*November.*—Hardness before boiling 8·5 degrees ; after 5·0 degrees. The water is slightly harder this month than last, but the high degree of organic purity is well maintained.

*December.*—Hardness before boiling 8·0 degrees ; after 5·5 degrees. This water shows an average hardness, and is, organically, as pure as any previous sample analysed.



# RAINFALL, 1907.

AT WORTHINGTON.

Month.	Rainfall in Inches and Tenths.	No. of days on which rain fell, being .01 of an inch or more.
January .. .. .	1.56	17
February .. .. .	1.63	14
March .. .. .	2.78	18
April .. .. .	1.80	14
May .. .. .	3.28	24
June .. .. .	6.31	28
July .. .. .	3.22	22
August .. .. .	4.55	23
September .. .. .	1.07	7
October .. .. .	3.17	27
November .. .. .	3.24	23
December .. .. .	3.59	21
	36.20	238

Average per head per day (estimated population, 67,195), 18.35 gallons.

The mean annual fall for the previous ten years is 33.88.

Annual average for the last 50 years, 37.26, and 188 days on which rain was gauged.

The greatest rainfall in one month in any of the 50 years was 9.95 in October, 1870.

The least rainfall in one month in any of the 50 years was 0.09 in February, 1858.

Maximum rainfall in any of the 50 years, 54.84 in 1872.

Minimum rainfall in any of the 50 years, 22.12 in 1887.

The wettest month last year (1907) was June, 6.31 inches, and the number of days 28.

The driest month last year (1907) was September, 1.07 inches and the number of days 7.

The driest month (in the 50 years average) proves to be April, both in quantity of rain gauged and the number of days on which rain fell, viz.:—An average of 2.01 inches in depth, and 13.18 days per month.

The wettest month is October for the same period, viz.:—An average of 4.38 inches in depth, and 18.64 days per month.

An inch of rainfall weighs very nearly 101 tons per statute acre.

## RAINFALL, 1907.

AT BISPHAM.

Month.	Rainfall in Inches and Tenths.	No. of days on which rain fell, being .01 of an inch or more.
January .. .. .	1.45	17
February .. .. .	1.74	13
March .. .. .	2.97	16
April .. .. .	1.41	13
May .. .. .	3.46	21
June .. .. .	7.04	27
July .. .. .	3.48	17
August .. .. .	4.69	20
September .. .. .	1.00	7
October .. .. .	3.56	22
November .. .. .	3.20	19
December .. .. .	3.28	19
	37.28	211

Average per head per day (estimated population, 23,847), 10.8 gallons.

## BLACK SMOKE NUISANCE.

Much has been done in reference to the Black Smoke Nuisance ; many observations have been taken by your Inspectors, with a view to prosecution. Letters have been written and threats made, and some improvement has been made, but much can be done to remedy the same.

I submit extract with reference to experiments conducted in Oldham.

### THE BLACK SMOKE NUISANCE.

#### SUCCESSFUL OLDHAM EXPERIMENT.

During last year several Oldham spinning companies were persuaded to install certain appliances for the prevention of the black smoke nuisance, and the results of the working of the apparatus were given in a report made to the Health Committee on Thursday evening by Dr. Wilkinson, the Medical Officer of the Borough.

No names of mills or of particular appliances were mentioned.

In the case of the first mill, between January and May, nine half-hour observations of the chimney showed an average black smoke emission of 2·4 minutes, with a highest of  $6\frac{1}{4}$  minutes in half an hour. The appliances were fixed in May, and since then nine more observations had been taken without a single emission of black smoke being detected, and the moderate smoke was exactly the same as the previous records.

In the second case eight observations prior to the appliances being fixed in September gave an average black smoke emission of 1·7 minutes per half hour, the highest being four minutes. There are two boilers at this mill. After the appliances had been fixed six observations had been taken, and not one of them showed any black smoke.

Both of these companies had been previously prosecuted during the year for emitting black smoke.

In case No. 3 the appliances were fitted in July, and the average black smoke showed in seven half hour observations were 3·4 minutes, and this company had also been prosecuted. Since the fixing of the appliances six observations had been taken and had shown no black smoke. This was a large mill with five boilers.

The fourth was an old mill with four boilers, working three at present. Prior to appliances being fixed five observations gave an average black smoke emission of 3·4 minutes, highest  $5\frac{1}{4}$  minutes. After the appliances had been fixed nine observations showed an average emission of ·83 minutes, and even that small average was raised by two observations taken immediately after the installation of the apparatus, and perhaps before it had got properly to work.

Several members of the Committee remarked upon the report. Alderman Grime said it showed that black smoke could be abolished—that there were appliances which would do it if firms would only go in for them.



The Chairman (Councillor Simister) read a letter from a mill owner who had adopted a certain appliance, and who wrote that it was working satisfactorily. The writer also urged that the Health Committee would have to put more pressure upon mill companies, for, he wrote, a lot of people won't move until they are made, and now is a time when it could be done without hardship on anybody. He suggested the formation of a Smoke Suppression Society, and Councillor Simister said that this gentleman had privately offered £50 a year for two years towards such a society.

*Extract from Sanitary Record, January 30th, 1908.*

---

## PROPERTY UNFIT FOR HUMAN HABITATION.

The following houses were scheduled under the Housing of the Working Classes Act, 1890, and were dealt with by the Committee :—

- 8, 9, 10, 11, Ship Yard, Millgate.
- 19, 21, Orchard Street.
- 2, 3, 4, 5, 6, 7, 8, 9, 10, Harrison's Square, Orchard Street.
- 4, 5, 6, 7, 8, 9, 10, 11, 12, Bailey's Court, Hallgate.
- 13, 14, 15, 16, 17, 18, 19, Bailey's Court, Hallgate.
- 20, 21, 22, 23, 24, 25, 26, Bailey's Court, Hallgate.
- 27, 28, 29, 30, 31, 32, Bailey's Court, Hallgate.
- 1, Bolton's Yard, Hallgate.
- 1, 2, 3, 4, 5, 6, 7, Marsden's Court, Hallgate.
- 1, 2, 3, 4, 5, Crook's Yard, Hallgate.
- 3, 4, 5, 6, Robin Hood Yard, Hallgate.
- 1, 3, Shaw's Yard, Hallgate.
- 2, 3, 4, Fleming's Yard, Hallgate.
- 1, 2, Atherton's Yard, Hallgate.

The following is a list of Unpaved Yards and Passages that have been dealt with during 1907 :—

5-15, Brackley Street (P.)	37-43, Princess Street.
6-12, 26 and 38, and others, North- umberland Street (P.)	Preston's Yard, Albert Street (P.)
12 and others, Duke Street (P.)	9, 11, 13, 15, 25, Sydney Street (P.)
25, 45, 47, and others, Bentinck Street (P.)	63, 65, 67, 69, Darlington Street East.
50-62, 20, and others, Bentinck Street (P.)	2-12, Layland Street.
14-21, 33-39, Alfred Street (P.)	Bd. 6, 8, 10, 12, Hardybutts.
192a and others, Wallgate.	1, Spring Street.
	100-106, Greenough Street.
	44, 47, 49, 51, Stanley Street.
	27, Kearsley Street.

The following have also been dealt with for Defective Surface of Yards, &c. : --

6-16, Golborne Street.	18, Orchard Street.
4 and others, Kildare Street (P.)	27, Bridge Street.
13, Cowling Street.	27, 31, 33, School Street.
16 and others, Soho Street (P.)	Lowe's Yard, Bridge Street.
61, Queen Street.	12-16, Lower Morris Street.
101, Greenough Street.	1-7, Northumberland Street.
86, Billinge Road (P.)	1, Barlow's Yard, Lower Morris Street.
54-68, 70-78, Linney Street.	68-76, Platt Lane.
4-18, Caunce Street.	44, Queen Street.
26, Neville Street.	22, Peet Street.
44, Bridgewater Street (P.)	10-14, Princess Street.
68, Caroline Street.	108, Frog Lane.
47, Stanley Street.	8, Douglas Street (P.)
26, Little Lane (P.)	8, Queen Street (P.)
55, Enfield Street (P.)	16, Low Street.
57, John Street.	3, 4, Alliance Street.
5 and others, Belle Vue Street (P.)	9, Clarence Street.
75, Upper Morris Street.	1, Thompson Street.
76, Ellesmere Road (P.)	52-61, John Street.

## BOROUGH SURVEYOR'S DEPARTMENT.

The Borough Surveyor has kindly supplied me with the following particulars :—

		T.	C.	Q.
House refuse collected in Borough from January 1st to December 31st, 1907 .. .. .	18,178	7	0	
Pail excreta removed .. .. .	6,987	3	0	
Nightsoil removed .. .. .	1,962	14	0	
Number of pail closets in Borough ..	8,972			
Number of pails collected in 1906 ..	454,884			
Cost (including washing and distribution) .. ..	£2,219	9	1	
Cost of collecting ashes during 1906 .. ..	£2,132	15	11	
Number of privy middens in Borough ..	1,746			
„ „ emptied, 1906 ..	14,411			
„ new houses erected in 1906 ..	228			
„ water closets in Borough ..	4,760			

## SCAVENGING.

This Department is now under the control of the Sanitary Works Committee, and the disposal of sewage is in charge of the Sewage Farm Committee, the Medical Officer of Health being requested to attend when required.



## MIDWIVES ACT, 1902.

We have now 54 women on the Midwives Register for the Borough. This year they have been visited at their own homes by Dr. J. Foreman Berry, M.B., and Ch.B., St. And. L.R.C.P., and S. Ed., &c. He has presented a report to me in each case, and, where necessary, letters have been written to those who have not conformed to the Regulations of the Midwives Board.

In my last report I said: "In time it will bring about a condition of things where all midwives will have gone through a proper course of training, and thus the risks to which child-bearing women of our population are subject will be minimised."

During the year there were 8 cases of Puerperal Fever notified and 5 deaths, against 9 cases and 4 deaths in 1906. There were 7 cases in which a midwife had been in attendance; in each case she was suspended from carrying out her midwifery duties.

Many midwives have been summoned before me for negligence in carrying out the rules of the Midwives Board, but none have been reported to the Board during the year, as we hope they will take warning of the admonition.

During the year I have had the following reports sent in :—

- 16 Records of sending for Medical Help.
- 2 Notification of Death of Child,
- 18 Notification of Still-births.

against in 1906.

- 13 Records of sending for Medical Help.
- 4 Notification of Death of Child.
- 15 Notification of Still-births.

and in 1905.

- 9 Records of sending for Medical Help.
- 5 Notification of Still-births.



## COUNTY BOROUGH OF WIGAN.

Midwives on Register, year ending 31st December, 1907.

<i>Name.</i>	<i>Registered No.</i>
Atherton, Ann .. .. .	4,607
Appleton, Mary A. .. .. .	890
Ashton, Ellen .. .. .	3,740
Archer, Annie M... .. .	4,143
Alcock, Florence A. .. .. .	17,693
Blatherwick, Jane .. .. .	3,878
Barlow, Annie .. .. .	12,602
Baxter, Mary E. .. .. .	661
Banks, Jane .. .. .	891
Bentham, Elizabeth .. .. .	6,722
Bentham, Ellen .. .. .	19,486
Booth, Maria .. .. .	3,263
Cox, Jane .. .. .	933
Cowley, Elizabeth .. .. .	3,780
Cunliffe, Mary .. .. .	19,073
Daniels, Ellen .. .. .	9,585
Dutton, Harriet .. .. .	10,507
Finch, Eliza .. .. .	3,760
Finch, Alice .. .. .	4,360
Finch, Jane .. .. .	7,694
Grundy, Maria .. .. .	3,643
Groncott, Harriet.. .. .	5,241
Green, Sarah .. .. .	13,239
Holland, Ellen .. .. .	2,531
Halliwell, Ann H. .. .. .	4,121
Humphries, Margaret .. .. .	4,479
Holland, Elizabeth .. .. .	3,784
Hoy, Louisa .. .. .	19,889
Kynaston, Jane E. .. .. .	9,942
Lyon, Sarah .. .. .	596
Langshaw, Ann .. .. .	3,621
Layland, Alice .. .. .	5,276
McAllister, Isabel .. .. .	23,614
McQuillan, Sarah .. .. .	2,676
McCann, Margaret .. .. .	2,532
Melling, S. A. .. .. .	25,128
Morris, Sarah .. .. .	5,231
Massey, Elizabeth .. .. .	4,144
Moss, Elizabeth .. .. .	15,722
Patrick, Ann .. .. .	6,335
Perkins, Margaret A. .. .. .	4,145
Pilkington, Hannah .. .. .	11,088
Priest, Catherine .. .. .	17,057
Perry, Nancy .. .. .	17,052
Rigby, Mary A. .. .. .	2,765
Salt, Maria .. .. .	18,338
Taylor, Ann .. .. .	3,331
Thorpe, Millicent .. .. .	4,146
Wilson, Dorothy .. .. .	558
Wallwork, Mary .. .. .	659
Worthington, Elizabeth .. .. .	4,367
Welsh, Alice .. .. .	4,346

*Residing outside, but practising in Wigan :*

<i>Name.</i>					<i>Registered No.</i>
Davies, Mary A. ..	..	..	..	..	2,780
Hill, Alice ..	..	..	..	..	3,766

## NOTIFICATION OF BIRTHS ACT, 1907.

Nothing has been done in reference to the adoption of this Act, excepting the pious opinion, that it is desirable to adopt it. When adopted, a Lady Sanitary Health Visitor will be required with the necessary certificate of the Royal Sanitary Institute or some similar body.

I subjoin table on Infantile Mortality.

### INFANTILE DEATH RATES, 1907.

Month.	Deaths, all Causes.	Births.	Rate per 1,000 Births.	Diarrhoea Deaths.	Rate per 1,000 Births.
January ..	25	235	106	—	—
February ..	27	212	127	1	4
March ..	32	266	120	2	7
April ..	49	226	216	1	4
May ..	35	214	163	—	—
June ..	43	253	169	—	—
July ..	23	195	117	—	—
August ..	40	247	161	7	28
September ..	33	202	163	16	79
October ..	50	198	252	18	90
November ..	58	250	232	1	4
December ..	31	230	134	—	—
	446	2,728	163	46	16

Rate per 1,000 Births for 12 months, 163.

Average for the last 10 years (1897–1906), 176.

**EDUCATION ACT, 1902 & 1904.**

The Education Committee so far have done nothing in respect to the Medical Inspection of Schools, or of the school children, but they are considering in conjunction with the Health Committee, what steps should be taken in reference to the Memorandum of the Board of Education (Circular 576). If this Memorandum is to be carried out it will require a School Nurse and entail a good deal of work on the Health Department, although the School Nurse would, I presume, be paid for by the Education Authority. The Director of Education consults me on all matters appertaining to the teachers, and the Committee carry out loyally any suggestion made by myself in respect to infectious diseases. The water supply in the Elementary Schools is good, and prompt measures are taken to exclude children from the school when any information is received regarding infectious disease, especially the notifiable diseases and measles. Advice is also given in cases of skin diseases.



PUBLIC ANALYST'S LABORATORY,

WIGAN,

MARCH 19th, 1908.

*To the Chairman and Members of the Health Committee of the  
Wigan Corporation.*

Mr. Chairman and Gentlemen,

I have the honour to submit my Report for the year 1907.

In addition to acting as Public Analyst for the County Borough of Wigan, my duties are to closely watch the water supply, to frequently test the illuminating power of the gas, and, when necessary, to report upon official samples of sewage effluent, etc., taken at the Corporation Sewage Works. I, therefore, deemed it advisable to treat the report under these headings, and in the order indicated.

For their hearty co-operation and support, I beg leave to thank the Chairmen and officials of the above committees, and particularly the Medical Officer of Health (Dr. W. Berry) and Chief-Inspector Sumner, for their uniform kindness and willing help.

I am, Mr. Chairman and Gentlemen,

Your obedient Servant,

S. ERNEST MELLING.

# Annual Report of the Public Analyst for the year 1907.

---

## FOOD AND DRUGS.

---

### WORK DONE UNDER THE SALE OF FOOD AND DRUGS ACTS.

During the year 1907 I have analysed and reported upon 212 samples, as follows :—

135 milks, 27 butters, 13 condensed milks, 9 rums, 6 each of cheese and sweet spirits of nitre, 5 each of coffee and brandy, 2 each of tea and cream, and 1 each of whisky and separated milk.

Of these samples 6 were found to be adulterated, corresponding to a percentage adulteration of 2·8, namely, 2 milks which were deficient in fat to the extent of 26 per cent. and 16 per cent. respectively; 1 brandy, 1 rum, and 1 whisky which contained 20 per cent., 10 per cent., and 3 per cent. respectively of excess water; and 1 sweet spirits of nitre which was deficient in nitrous ether to the extent of at least 40 per cent.

Subjoined are two tables, the first giving an analysis of the above work as required by the Local Government Board, the second comparing adulteration in Wigan with that of certain other authorities for the year 1905. Official information, in the form of Local Government Board returns for the past two years, is not yet to hand, but I am in the position to give the figures for 1907 from a few, more or less, local boroughs, &c., which may be of interest.

I purpose dealing with the samples under their various headings, defining the principal analytical characters of each and indicating some of the many methods of sophistication.

TABLE I.

1907.	Milk.	Butter.	Con- densed Milk.	Rum.	Cheese.	Sweet Spirits of Nitre	Coffee.	Brandy.	Tea.	Cream.	Whisky	Separ- ated Milk.	TOTAL.
Number of Samples Analysed ..	135	27	13	9	6	6	5	5	2	2	1	1	212
Number of Samples Adulterated ..	2	Nil.	Nil.	1	Nil.	1	Nil.	1	Nil.	Nil.	1	Nil.	6
Percentage of Adul- teration ..	1.5	Nil.	Nil.	.11	Nil.	.16	Nil.	.20	Nil.	Nil.	1.00	Nil.	2.8



Of the Authorities quoted for the year 1905, the majority of which represent Lancashire and Yorkshire Cities and Boroughs, Wigan shows, with one exception (Hull), the lowest percentage of adulteration and, taking into consideration the population, has very much the best record. The highest recorded adulteration obtained in Leeds, followed by Newcastle-upon-Tyne, Liverpool, The Metropolis, Birmingham, Sheffield, Halifax, and Warrington—all coming fairly close together.

Judging from the limited number given, there appears to be an improvement all round for last year (1907), and Wigan's record—with the exception of Congleton—per head of population is again the best. When statistics are forthcoming it will be interesting to learn how the mean of 2·8 per cent. of adulteration compares with the grand average for the entire country.

See Table II. 130a.

---

## MILK.

Of prime importance as an article of diet, easy of assimilation, indispensable alike to the old and young, milk is, by reason of its various functions, its flesh-forming and heat-producing constituents, an ideal food. Inasmuch as the human body is constantly experiencing change, and at certain periods of life undergoing a process of growth, one obvious function of food is to make good this wear and tear and build up tissue. Now animal life in fulfilling the latter function is only able to make use of foods more or less similar in nature to its tissue, hence muscle, tendon, and other body constituents containing Nitrogen can only be elaborated from such Nitrogenous organic bodies as Albuminoids, which constitute the most important group of protein nutrients. Most of the fat, also, in the animal body is formed from these compounds, which are of very complex character. Certain mineral salts—chlorides, phosphates, and sulphates of soda, potash, lime, and magnesia—contributing to the composition of bones, blood, teeth, &c., are



TABLE II.

Authority.	Year.	Milk.			Butter.			Condensed Milk.			Rum.			Cheese.			Sweet Spirits of Nitre			Coffee.			Brandy.			Tea.			Cream.			Whisky.			Separated Milk.			Other Articles.			Total.									
		No. Analysed.	No. Adulterated.	Percentage of Adulteration.	No. Analysed.	No. Adulterated.	Percentage of Adulteration.	No. Analysed.	No. Adulterated.	Percentage of Adulteration.	No. Analysed.	No. Adulterated.	Percentage of Adulteration.	No. Analysed.	No. Adulterated.	Percentage of Adulteration.	No. Analysed.	No. Adulterated.	Percentage of Adulteration.	No. Analysed.	No. Adulterated.	Percentage of Adulteration.	No. Analysed.	No. Adulterated.	Percentage of Adulteration.	No. Analysed.	No. Adulterated.	Percentage of Adulteration.	No. Analysed.	No. Adulterated.	Percentage of Adulteration.	No. Analysed.	No. Adulterated.	Percentage of Adulteration.	No. Analysed.	No. Adulterated.	Percentage of Adulteration.													
London .. .. .	1905.	11567	1259	10.8	4937	468	9.5							277	19	6.9				895	98	11.0				95	Nil.	Nil.				288	47	16.3				3447	296	8.6	21506	2187	10.1							
County of Lancaster .. .. .	"	5130	519	10.1	2290	112	4.9							309	6	1.9				490	10	2.0				117	Nil.	Nil.				1131	72	6.4				2909	147	5.0	12376	866	7.0							
Accrington .. .. .	"	21	Nil.	Nil.	6	Nil.	Nil.							—	—	—				2	Nil.	Nil.				—	—	—				9	Nil.	Nil.				12	2	16.6	50	2	4.0							
Blackburn .. .. .	"	111	10	9.0	38	Nil.	Nil.							—	—	—				17	Nil.	Nil.				—	—	—				—	—	—	83	2	2.4	249	12	4.8										
Bolton .. .. .	"	189	17	9.0	95	2	2.1							5	Nil.	Nil.				36	1	2.8				—	—	—				7	Nil.	Nil.	69	Nil.	Nil.	401	20	5.0										
Bootle .. .. .	"	84	13	15.5	50	Nil.	Nil.							11	Nil.	Nil.				2	Nil.	Nil.				—	—	—				9	Nil.	Nil.	37	5	13.5	193	18	9.3										
Burnley .. .. .	"	117	2	1.7	70	4	5.7							14	Nil.	Nil.				46	3	6.5				1	Nil.	Nil.				2	Nil.	Nil.	112	8	7.1	362	17	4.7										
Liverpool .. .. .	"	913	142	15.5	254	24	9.4							18	Nil.	Nil.				22	Nil.	Nil.				37	Nil.	Nil.				110	8	7.3	747	74	10.0	2101	248	11.8										
Manchester .. .. .	"	1260	83	6.6	379	23	6.0							63	1	1.6				100	Nil.	Nil.				53	Nil.	Nil.				190	3	1.6	668	Nil.	Nil.	2713	110	4.0										
Oldham .. .. .	"	161	9	5.6	10	3	30.0							13	Nil.	Nil.				20	Nil.	Nil.				—	—	—				16	2	12.5	92	1	1.1	802	29	3.6										
Salford .. .. .	"	325	20	6.1	245	6	2.5							115	Nil.	Nil.				9	Nil.	Nil.				—	—	—				10	2	20.0	52	14	27.0	212	22	10.4										
Warrington .. .. .	"	71	4	5.6	59	1	1.7							12	1	8.3				6	Nil.	Nil.				2	Nil.	Nil.				13	4	30.7	43	1	2.3	305	10	3.3										
WIGAN .. .. .	"	160	2	1.3	70	1	1.4							—	—	—				19	2	10.5				—	—	—				—	—	—	23	2	8.7	105	9	8.6										
Birkenhead .. .. .	"	58	5	8.6	19	2	10.5							5	Nil.	Nil.				—	—	—				—	—	—				—	—	—	166	16	10.0	1286	139	10.8										
Birmingham .. .. .	"	760	89	11.7	240	30	12.5							46	2	4.3				38	Nil.	Nil.				—	—	—				36	2	5.5	359	26	7.2	758	40	5.3										
Bradford .. .. .	"	305	6	2.0	54	5	9.3							8	Nil.	Nil.				—	—	—				1	Nil.	Nil.				31	3	9.7	10	4	40.0	142	15	10.5										
Halifax .. .. .	"	116	10	8.6	15	1	6.6							—	—	—				1	Nil.	Nil.				—	—	—				—	—	—	—	—	—	361	Nil.	Nil.	621	28	3.0							
Hull .. .. .	"	379	23	6.0	59	3	5.1							71	1	1.4				18	Nil.	Nil.				18	Nil.	Nil.				15	1	6.6	—	—	—	56	15	27.0	598	118	19.7							
Leeds .. .. .	"	519	96	18.5	23	7	30.4							—	—	—				—	—	—				—	—	—				—	—	—	—	—	—	141	5	3.5	532	66	12.4							
Newcastle-on-Tyne .. .. .	"	241	45	18.7	140	15	10.7							8	Nil.	Nil.				—	—	—				—	—	—				2	1	50.0	119	10	8.4	697	75	10.8										
Sheffield .. .. .	"	418	42	10.0	73	5	6.8							11	2	18.2				—	—	—				—	—	—				76	16	21.0	119	10	8.4	697	75	10.8										
Accrington .. .. .	1907.	18	1	5.5	5	Nil.	Nil.				4	Nil.	Nil.	2	Nil.	Nil.	2	Nil.	Nil.	2	Nil.	Nil.	—	—	—	—	—	—	—	—	—	6	Nil.	Nil.	—	—	—	26	Nil.	Nil.	65	1	1.5							
Birkenhead .. .. .	"	100	12	12	52	8	15.4				—	—	—	6	Nil.	Nil.	—	—	—	5	3	60	2	Nil.	Nil.	—	—	—	4	Nil.	Nil.	4	Nil.	Nil.	—	—	—	62	1	1.6	235	24	10.2							
Birmingham .. .. .	"	815	81	10	858	64	7.5				5	Nil.	Nil.	82	Nil.	Nil.	—	—	—	13	Nil.	Nil.	—	—	—	—	—	—	—	—	—	9	5	55	15	4	26	227	35	15.4	2024	189	9.3							
County of Chester .. .. .	"	433	22	5.1	321	6	1.9				9	Nil.	Nil.	11	Nil.	Nil.	—	—	—	36	1	2.8	—	—	—	—	—	—	—	—	—	66	3	4.5	—	—	—	8	Nil.	Nil.	36	Nil.	Nil.	1048	32	3.0				
Congleton .. .. .	"	19	Nil.	Nil.	8	Nil.	Nil.				—	—	—	—	—	—	—	—	—	1	Nil.	Nil.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	Nil.	Nil.	48	1	2.1					
Glossop .. .. .	"	16	1	6	18	Nil.	Nil.				—	—	—	3	Nil.	Nil.	—	—	—	5	Nil.	Nil.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53	Nil.	Nil.	917	27	2.9		
Salford .. .. .	"	440	13	3	263	14	5.3				—	—	—	—	—	—	—	—	—	7	Nil.	Nil.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17	Nil.	Nil.	51	1	2.0
Stalybridge .. .. .	"	19	Nil.	Nil.	10	Nil.	Nil.				—	—	—	—	—	—	—	—	—	1	Nil.	Nil.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
WIGAN .. .. .	1907.	135	2	1.5	27	Nil.	Nil.	13	Nil.	Nil.	9	1	11	6	Nil.	Nil.	6	1	16	5	Nil.	Nil.	5	1	20	2	Nil.	Nil.	2	Nil.	Nil.	1	1	100	1	Nil.	Nil.	—	—	—	212	6	2.8							





in addition, absolutely indispensable, but a still further function is to furnish the body with the necessary animal heat. But although Nitrogenous compounds in the form of protein will contribute their share, it is primarily the work of the fat and carbohydrates (sugars) to supply the animal mechanism with the requisite fuel. On the other hand dietetic value does not solely depend upon the percentage of albuminoids and other nutrients present, but the extent to which such components are capable of being digested—idiosyncrasy in this, as in other things, has to be reckoned with. Having the above necessarily brief statement in mind we shall see on critically examining the composition of milk why it can claim to occupy such an unique position amongst foods. The following table shows of what milk of average quality is composed:—

TABLE III.

## AVERAGE COMPOSITION OF COW'S MILK.

		<i>Per Cent.</i>			
Milk	Butter Fat—Composed of Glycerides of Soluble and Insoluble Fatty Acids .. .. .				4.10
	Milk Serum	Casein .. .. .	3.00	Proteids	3.65
		Lactalbumin .. .. .	.50		
		Galactin .. .. .	.15		
		Fibrin, &c. }	..		
		Lactose or Milk Sugar .. .. .	4.30	Non-Fatty Solids,	8.80
		Citric Acid .. .. .	0.10		
		Oxides of Soda, Potash, Lime			
		Magnesia and Iron ; Chlorides ; Sulphur and Phosphorus Compounds			
	Ash		0.75		
	Water .. .. .	87.10			
				100.00	

It will be noticed that the above-mentioned members of all the different groups of nutrients are represented: The albuminoids by casein (principally) and lactalbumin, carbohydrates by lactose or milk-sugar, fat by butter-fat, and mineral salts in the ash. How very necessary, then, that the food value of milk should not be lowered by either the addition of water or abstraction of fat. That much time and attention to this important question

has been given in the past is seen in the legislation and various recommendations of the Board of Agriculture. Standards more or less arbitrary have from time to time been adopted only to be modified upon more complete inquiry. For some years past it has been held that normal milk should contain at least 8·5 per cent. of non-fatty solids and 3·0 per cent. of butter-fat, below which it is presumed to be adulterated. Further, it must contain neither preservative nor harmful colouring matter. Having in mind these standards I would at once refer you to the accompanying table, which represents the official samples of milk analysed during the year and which shows :—

(1) The Government limit of 3 per cent. of fat is low as compared with the Borough Milk Supply.

(2) The yearly mean approximates to the above tabulated milk of average quality.

(3) The poorest samples obtained in June (Nos. 47 to 70 submitted that month), when there was an abnormally high rainfall.

Sec Table IV.

TABLE IV.

No.	Total Solids, %.	Fat, %.	Solids, Not Fat, %.	Observations.
1.	12.5	4.0	8.5	Good.
2.	17.0	8.0	9.0	Very Superior.
3.	12.8	3.8	9.0	Good.
4.	12.7	3.9	8.8	"
5.	12.8	4.2	8.6	"
6.	13.2	4.3	8.9	Very Good.
7.	12.7	4.1	8.6	Good.
8.	13.1	4.6	8.5	Very Good.
9.	12.8	4.1	8.7	Good.
10.	14.5	6.0	8.5	Very Superior.
11.	12.7	4.1	8.6	Good.
12.	13.1	4.2	8.9	Very Good.
13.	13.3	4.0	9.3	"
14.	11.0	2.2	8.8	Adulterated.
15.	12.6	3.6	9.0	Good.
16.	12.5	3.5	9.0	"
17.	14.2	5.0	9.2	Superior.
18.	13.0	3.9	9.1	Good.
19.	12.9	4.2	8.7	"
20.	12.4	3.9	8.5	"
21.	12.7	3.8	8.9	"
22.	13.3	4.2	9.1	Very Good.
23.	12.7	3.7	9.0	Good.
24.	12.1	3.6	8.5	Very Fair.
25.	13.7	4.4	9.3	Very Good.
26.	14.3	5.0	9.3	Superior.
27.	12.4	3.7	8.7	Good.
28.	12.4	3.8	8.6	"
29.	11.7	3.1	8.6	Inferior.
30.	11.7	2.5	9.2	Adulterated.
31.	11.9	3.2	8.7	Fair.
32.	13.6	4.7	8.9	Very Good.
33.	12.8	4.2	8.6	Good.
34.	13.1	4.4	8.7	Very Good.
35.	12.3	3.8	8.5	Good.
36.	12.1	3.5	8.6	Very Fair.
37.	12.0	3.3	8.7	Fair.
38.	12.7	4.1	8.6	Good.
39.	12.5	3.9	8.6	"
40.	13.0	4.0	9.0	"
41.	13.1	4.0	9.1	"
42.	13.7	4.8	8.9	Very Good.
43.	13.5	4.6	8.9	"
44.	12.8	3.8	9.0	Good.
45.	13.2	4.3	8.9	Very Good.
46.	13.3	4.3	9.0	"
47.	11.8	3.0	8.8	Inferior.
48.	11.5	3.0	8.5	"
49.	11.9	3.0	8.9	"
50.	12.1	3.1	9.0	Fair.
51.	11.9	3.1	8.8	Inferior.
52.	11.8	3.0	8.8	"
53.	12.0	3.0	9.0	"



TABLE IV.—CONTINUED.

No.	Total Solids, %.	Fat, %.	Solids, Not Fat, %.	Observations.
54.	12.0	3.0	9.0	Inferior.
55.	11.5	3.0	8.5	"
56.	11.5	3.0	8.5	"
57.	12.6	3.3	9.3	Very Fair.
58.	12.1	3.2	8.9	Fair.
59.	12.1	3.4	8.7	"
60.	13.1	4.5	8.6	Very Good.
61.	12.6	3.5	9.1	Good.
62.	12.0	3.0	9.0	Inferior.
63.	12.0	3.2	8.8	Fair.
64.	12.3	3.3	9.0	"
65.	12.0	3.0	9.0	Inferior.
66.	12.1	3.3	8.8	Fair.
67.	12.3	3.2	9.1	"
68.	11.7	3.0	8.7	Inferior.
69.	11.9	3.1	8.8	Inferior.
70.	12.2	3.6	8.6	Very Fair.
71.	13.5	4.8	8.7	Very Good.
72.	12.3	3.6	8.7	Very Fair.
73.	12.1	3.6	8.5	"
74.	12.4	3.7	8.7	Good.
75.	13.2	4.6	8.6	Very Good.
76.	12.7	4.2	8.5	Good.
77.	12.9	4.3	8.6	"
78.	12.2	3.2	9.0	Fair.
79.	12.9	3.8	9.1	Good.
80.	12.7	3.9	8.8	"
81.	12.8	3.9	8.9	"
82.	13.5	4.9	8.6	Very Good.
83.	13.0	4.4	8.6	"
84.	12.8	3.9	8.9	Good.
85.	11.8	3.1	8.7	Inferior.
86.	12.4	3.9	8.5	Good.
87.	12.9	4.3	8.6	"
88.	12.6	4.0	8.6	"
89.	12.3	3.6	8.7	Very Fair.
90.	13.6	4.5	9.1	Very Good.
91.	13.0	4.4	8.6	"
92.	12.6	4.1	8.5	Good.
93.	12.7	4.2	8.5	"
94.	13.3	4.3	9.0	Very Good.
95.	12.4	3.7	8.7	Good.
96.	12.9	4.1	8.8	"
97.	12.9	4.2	8.7	"
98.	13.9	5.3	8.6	Superior.
99.	13.3	4.4	8.9	Very Good.
100.	12.8	4.1	8.7	Good.
101.	12.5	3.8	8.7	"
102.	13.8	5.1	8.7	Superior.
103.	13.3	4.7	8.6	Very Good.
104.	12.7	4.0	8.7	Good.
105.	12.6	3.1	9.5	Fair.
106.	12.5	4.0	8.5	Good.

TABLE IV.—CONTINUED.

<i>No.</i>	<i>Total Solids, %.</i>	<i>Fat, %.</i>	<i>Solids, Not Fat, %.</i>	<i>Observations.</i>
107.	12.1	3.5	8.6	Very Fair.
108.	12.7	3.6	9.1	Good.
109.	12.9	4.1	8.8	”
110.	11.6	3.1	8.5	Inferior.
111.	12.7	3.6	9.1	Good
112.	13.5	4.6	8.9	Very Good.
113.	13.5	4.7	8.8	”
114.	12.3	3.5	8.8	Very Fair.
115.	13.1	4.3	8.8	Very Good.
116.	11.9	3.4	8.5	Fair.
117.	12.4	3.8	8.6	Good.
118.	13.4	4.3	9.1	Very Good.
119.	12.4	3.7	8.7	Good.
120.	12.0	3.3	8.7	Fair.
121.	13.0	4.0	9.0	Good.
122.	13.6	5.0	8.6	Very Good.
123.	12.3	3.8	8.5	Good.
124.	12.9	3.9	9.0	”
125.	11.9	3.3	8.6	Fair.
126.	12.6	4.1	8.5	Good.
127.	12.6	4.1	8.5	”
128.	13.2	4.2	9.0	Very Good.
129.	12.6	3.8	8.8	Good.
130.	12.2	3.6	8.6	Very Fair.
131.	12.3	3.7	8.6	Good.
132.	12.2	3.5	8.7	Very Fair.
133.	12.0	3.4	8.6	Fair.
134.	12.2	3.3	8.9	”
135.	12.4	3.7	8.7	Good.
<i>Mean..</i>	12.7	3.9	8.8	

In certain interested quarters one occasionally hears an outcry against the 3 per cent. fat-standard as being too severe, some colour being given to this complaint by the fact that, here and there, a cow in a herd furnishes milk which is below this figure and the fact is pressed for all it is worth. But is the public supplied with the product of one cow? In their own interests dairymen obtain a normal quality by mixing the milk they buy from farmers. Where animals do frequently yield milk containing less than 3 per cent. of fat they are dangerous inasmuch as the general quality of the milk suffers, and many buyers are influenced in the price they pay by quality assuming other conditions are equal. With the object of minimising the effect of the addition of separated milk, or by mere fat abstraction (and many of the above official samples allow a good latitude for such practices), a not unnatural proceeding would be to either raise the standard for fat to, say, 3.25 per cent, or vary the price according to quality. A dealer who can systematically give a guarantee of a high fat percentage—varying such by seasonal and other conditions—ought to be able to command a higher price than he who, by one means or the other, reduces his milk to the 3 per cent. standard.

None of the samples contained extraneous water, and therefore I have not much to say with regard to impoverishment in this direction. Added water will reveal itself by a diminution in the quantity of non-fatty solids which, in the case of the Wigan supply, averages for the year 8.8 per cent. or three-tenths per cent. more than the Government limit. It is important to note that adulteration of this character may mean something more serious than an attenuated food-value; cases are on record of pathogenic organisms (typhoid for example) having been introduced by added water of a grossly-polluted character.

Prominence has recently been given to the subject of dirt in milk by the strong action of a Metropolitan Magistrate in sentencing to imprisonment a vendor found guilty of selling dirty milk. It is by such effete matter that bacteria, often of a harmful character, are introduced, and



which by the very nature of milk are afforded a highly satisfactory pabulum for their propagation. Cleanliness in production, storing, and delivery should be of paramount importance, and if all those who handle milk from producer to vendor appreciated this fact at its true value, the much-discussed question of the use of preservatives would be very largely solved.

The natural souring of milk is due to the action of a specific micro-organism which transforms milk-sugar (lactose) into lactic acid, which sets up the condition known as curdling. Such action proceeds until the further growth of the organism is inhibited by the acid produced, the whey separating as a more or less clear fluid. The following conditions, in addition to the one of prime importance noticed above, go far to retard the souring of milk:—

(I.) Rejection of the first jets of fore-milk. The healthy cow secretes bacteria-free milk, but, because of the interval between milkings, which permits of rapid bacterial growth, the fore-milk—representing the residue of fluid left in the teat from the previous milking—is rich in micro-organic life.

(II.) Wherever possible it would be an advantage were the animal removed from its byre to a specially appointed milking-room and the lower parts of the animal thoroughly cleansed before milking operations.

(III.) Sterilization of vessels and scrupulous cleanliness of the hands, clothing, etc., of the milker, and—

(IV.) Efficient cooling conditions.

But, either in ignorance of these facts, or to save expense and trouble, some producers attempt to solve the difficulty by the addition of a small quantity of preservative. After collection, the milk has to go to a distant town, let us say, where it is delivered to the dealer. The latter, particularly if the weather be unpropitious, and not caring to risk the “turning” of the milk, possibly introduces a further dose of boric acid or formalin, as the case may be. With what

result? Expert medical opinions may vary as to the deleteriousness or otherwise of the “preserved” milk, particularly when intended for the use of children and invalids, but a logical conclusion is to give oneself the benefit of any doubt there may be on the subject, and demand that drugs—however beneficial they may be when incorporated in a physician’s prescription—should not be introduced promiscuously into a staple article of diet. Again, there is no guarantee that such preservatives will act as germicides to any disease-producing organism likely to be present—in other words, their virulency is in no wise diminished.

It is therefore gratifying to record the fact that all the official samples of milk taken throughout the year, and more especially in the close summer months, were free from preservatives.

---

## BUTTER

Second only to milk in importance as a food, butter is of complex composition and offers an equally wide field for the practice of adulteration. It may briefly be defined as the product obtained by the churning of milk or cream, whereby the fat adheres together in a compact mass inclosing a certain portion of the curd, the excess of serum being subsequently largely removed by washing, etc.

A typical butter has about the following percentage composition :—

	Per cent.
Water ... ..	11·50
Casein (curd) ... ..	2·00
Salt (choride of sodium) ...	3·75
Fat ... ..	82·75
	<hr/>
	100·00
	<hr/>

Butter-fat contains, in varying proportions, some nine or ten fatty acids in combination with glycerine—the most characteristic of which is butyric acid.



Broadly speaking there are three varieties of sophistication :—

(1) The entire or partial substitution of fat foreign to butter-fat, popularly called margarine.

(2) The incorporation of milk products, foreign animal fat, and vegetable oil, and the presence of excessive moisture, and—

(3) The addition of boric acid in quantity above 0·5 per cent. or 35 grains per pound—this limit at the suggestion of the Board of Agriculture.

(1) By far the oldest fraud, the substitution of margarine, was formerly very prevalent throughout the country. The old-time adulterators reaped a fine harvest whilst the analyst was working out methods whereby foreign fat could be detected and estimated.

Thirty years ago hygienic chemistry was in its infancy, and it can be here recorded that more time and attention was given to the subject of butter than any other food. It is further a tribute to the skill and foresight of the pioneer workers that many of the principal analytical methods now in vogue are either based upon, or are modifications of, their original processes. Now, although margarine can be so prepared as to simulate butter in its physical characters (appearance, odour, etc.), it markedly differs in its composition in that it contains only traces of volatile fatty acids, whilst butter usually shows from  $4\frac{1}{4}$  to  $5\frac{1}{2}$  per cent. (combined, as stated above, with glycerine to form tri-glycerides), and upon this variation is based a critical method of examination, whereby the analyst can prove the presence and quantity of foreign fat. Stated shortly, margarine is a substance consisting wholly, or in part, of fat, not exclusively derived from milk or cream. When carefully prepared under sanitary conditions it is perfectly wholesome and, practically speaking, equal to butter in nutritive principles. When buying margarine at butter prices the purchaser is prejudiced inasmuch as he is getting something “not of the nature and quality of the



substance demanded.” The fraud is palpable, and I shall further refer to it at a later stage in this report.

(2) An insidious form of adulteration, yielding handsome profits, is the one in which the manipulator calls in science to aid him in his practices. I refer to what has been known for some time past as “butter-faking,” and so serious has this matter become that, after much agitation, a Bill was passed through Parliament and became law on the first of January this year. This Act seeks to deal effectively with the question, and from several standpoints. The matter is of such importance that I venture to briefly summarise the Act, but before doing so it would be well to outline the methods of sophistication.

Butters vary greatly in composition—quantity of fat, moisture, and so on—and on this account there can be selected from amongst them certain types which specially lend themselves to “manipulation.” The idea naturally took some time to crystallise, but when handsome profits were realised the practice became prevalent to an alarming extent.

The requisites are—(1) So-called solidified milk, which is nothing more than the casien (curd) thrown down from separated milk by the action of hydrochloric acid, subsequently pressed and carefully neutralised with carbonate of soda. (2) Separated milk which has been suitably inoculated with a little of a pure culture of lactic acid ferment—free acid being produced and allowed to develop to a known extent—cooled and “salted.” By the use of such media is a factitious butter flavour obtained. (3) A selected type of butter, as high as possible in fat-content. Choosing at the right time of the year a Colonial or Siberian butter, an equal weight of solidified milk is taken and kneaded until thoroughly consistent, and the remainder of the calculated quantity of butter is added. Whilst the machine is working the necessary amount of separated milk (2)—previously raised to blood-heat—is introduced. The higher the temperature of butter when introduced the more vaseline-like will be the product, and some days are required before

it again assumes its normal texture. More salt can be added if necessary, but usually there is sufficient present as resulting from the inter-action of acid and alkali in (I). Information is not wanting that mock Irish firkin butter has been made in this manner at a gain of over fifteen shillings per hundredweight.

Another method, showing increased refinement in adulteration is by a combination of the above process and incorporation of foreign fats. One-fourth the quantity of the selected butter is placed in the kneader and solidified milk added as before. An intimate mixture of leaf-lard, cocoa-nut oil, and beef suet is introduced in a semi-liquid form followed by inoculated separated milk. After kneading the mixture is allowed to stand for some hours, after which it is blended on a special form of table with the remaining three-parts of butter. Profits are even higher in this case than in the former.

Now there are several methods of analysis, some critical, others less exacting, but the factors obtained in "butters" of the character just described are not inconsistent with purity. Falling as they do within the recognised limits of official processes—however suspicious they may be otherwise—the analyst has no option but to pass them as genuine. It so happens that five per cent. of adulteration in one direction is compensated by a further five per cent. in the opposite direction—the resulting ten per cent. giving many constants coincident with the genuine article.

As a result of these practices there was much agitation for legislation, and a Bill has been before Parliament for some years, and the resulting new law regulating the sale of butter and margarine is, as mentioned above, now in operation.

The Act provides for, amongst other things :—

Registration of butter-factories and any premises on which milk-blended butter is manufactured ; power given to any officer of the Board of Agriculture or Local Government Board of entrance to any premises registered under the Sale of Food and Drugs Acts or this Act ; and



to inspect any process of manufacture, blending, re-working, &c. ; and to take samples for analysis of any article appertaining to the nature or used in the manufacture of butter, margarine, &c. ; power given to a duly authorised officer of a local authority in like manner ; if any substance intended to be used for the adulteration of butter is found in any butter factory, the occupier of the factory shall be guilty of an offence under this Act, and if any oil or fat capable of being so used is found in such factory it shall be deemed to be intended to be so used unless the contrary is proved ; a limit of 16 per cent. for water in butter and margarine and 10 per cent. of butter-fat in the latter ; milk-blended butter must contain not more than 24 per cent. of water, and must be marked with such name as may be approved by the Board of Agriculture ; no preservative in excess of the limit allowed by any regulation under the Act ; no name suggestive of butter or anything connected with the dairying industry to be applied to margarine or milk-blended butter.

These are a few of the more important sections of the Act.

The law as it now stands deals strongly with the manipulator, and it may be too drastically with the honest importer, who is quite in the hands of the exporter. An importer, conducting a bona-fide business, is liable to a fine equal to the value of the goods imported bearing the same mark or description, if such imported butter is found to be adulterated.

The Act will, however, be justified a hundredfold if by its operation the unscrupulous manufacturer is expelled and the Colonial gets fairplay,

(3) Boric acid is allowed as a preservative to the extent of 0.50 per cent., or 35 grains to the pound. It is not often that this quantity is exceeded, the average being somewhere about 20 grains to the pound. There may be more need for the addition of this drug to butter than in the case of milk, though many samples quite free from it do not suffer in comparison. The boracicised variety on the other hand may not be above suspicion—



rancid butter is often worked up and the preservative added to retard further change.

All the official samples of butter taken during the year under the Sale of Food and Drugs Acts were free from foreign fat; contained a normal proportion of water, and were under the limit in regard to boric acid and borax.

## CONDENSED MILK.

Thirteen samples of the above were analysed during the year, of which four were whole-cream, and the remainder machine-skimmed milks. Tabulated the results are as follows :—

TABLE V.

No.	Total Solids.	Fat.	Proteids.	Milk Sugar.	Cane Sugar.	Ash.	Boric Acid.
1.	75.65	11.80	9.10	14.45	38.55	1.75	Nil.
2.	76.17	12.75	9.80	15.20	36.52	1.90	Nil.
3.	75.90	12.60	10.00	15.00	36.55	1.75	Nil.
4.	76.80	12.85	10.15	14.70	37.30	1.80	Nil.
5.	73.00	1.80	9.50	11.80	48.00	1.90	Present.
6.	73.40	1.15	10.50	12.15	47.60	2.00	Present.
7.	71.90	.75	10.20	13.75	46.75	2.05	Nil.
8.	73.50	.90	—	—	—	2.00	Nil.
9.	71.65	3.10	11.70	13.50	41.45	1.90	Slight trace.
10.	74.40	1.95	9.00	16.00	45.25	2.20	Present.
11.	73.10	2.10	9.00	—	—	2.00	Present.
12.	72.55	1.45	11.10	12.80	45.15	2.05	Nil.
13.	73.00	1.00	12.10	11.00	46.70	2.20	Nil.

Nos. 1, 2, 3, and 4 were one and the same brand, furnishing approximately the same results. They are whole-cream milks, being about thrice condensed and true to the description on the label. For ordinary uses a high dilution is recommended, reducing the fat-content to as low as, or even lower than, the Board of Agriculture limit for milk.

The remaining samples were, as described, machine-skimmed—Nos. 7 and 8 being identical, and Nos. 10 and 11 the same.

Some of these were prepared in Holland, and others in Ireland. No strict directions were given on the labels in regard to dilution before use. Obviously such proceeding reduces the fat to a minimum with consequent impoverishment, and the product partakes more of the nature of an undrinkable syrup than a food. It is of course impossible to make from these condensed milks (machine-skimmed) anything which corresponds with the original milk, but so long as the article is duly labelled no legal objection can be made against its sale.

---

## SWEET SPIRITS OF NITRE.

Six samples of this drug were examined, one of which was found to be deficient in ethyl nitrite—the principal medicinally-active constituent.

The drug deteriorates upon keeping owing to the volatility of the ethyl nitrite, but if prepared correctly and precautions are taken in storing, &c., it will show at least the minimum proportion of nitrite defined by the British Pharmacœpia, even after the lapse of many months. Another form of adulteration by which the spirit is impoverished is excess of water.

It is very necessary that the standard in this, as in other drugs, should be rigidly enforced, and though, as often happens, the pharmacist has a bona-fide defence, the patient must primarily be considered. Formerly many samples were condemned, but owing to a better appreciation of the above facts it is comparatively rare. It would be even still more so did the druggist occasionally assay his own spirits of nitre; with a simple apparatus and due care he could very easily keep within the specified limits of the Pharmacœpia.

---

## SPIRITS.

Fifteen samples of spirits were examined during the year, and one of each of rum, brandy, and whisky was adulterated.



RUM.—Nine samples were submitted for analysis, eight of which were of the required alcoholic strength, the remaining sample containing ten per cent. more water than is allowed by Act of Parliament. By section 6, of the Sale of Food and Drugs Act Amendment Act of 1879, the minimum strength for rum, brandy, and whiskey is fixed at 25 degrees under proof (corresponding to a mixture of 35·9 per cent. of absolute alcohol and 64·1 per cent. of water).

BRANDY.—Of five samples taken one was adulterated with 20 per cent. of excess water. These brandies were all further examined for the presence of patent or silent spirit with—judging from recognised standards—negative results. This form of sophistication has only recently attained prominence, and the present standard for “compound ethers” of 80 parts per 100,000 parts of absolute alcohol by volume in the spirit, has been adopted largely upon the evidence adduced in a famous London case some four or five years ago. The therapeutic value of brandy is due in great measure to the presence of compound ethers (e.g. ethyl acetate), &c., embodied in the so-called “impurities.” These products also give to the spirit its natural bouquet and aroma so characteristic of the true Cognac variety. Hence it follows that the addition of silent spirit—a pure form of alcohol obtained from almost any starchy material per the patent still—converts the brandy into a more or less featureless product; its value to the physician and connoisseur alike impaired.

WHISKY.—One sample only was examined, and this was adulterated with three per cent. of added water.

A Royal Commission is at the present time taking evidence on the very vexed question, “What is whisky?” Possibly as a result of its deliberations, standards may be adopted from which the analyst can draw his conclusion as to the origin of the spirit. There are such wide variations, however, in the amount of by-products, particularly higher alcohols, that the matter, analytically, is fraught with many difficulties.



## MISCELLANEOUS.

COFFEE.—The usual adulterant is chicory, but the official samples were innocent of this form of sophistication. Chemically and microscopically they were genuine.

CHEESE.—Six samples were submitted, but they were all composed of genuine butter-fat, and were free from filling and other objectionable additions. There is no standard for quantity of fat, but it may be noted that all the above contained from 20 to 45 per cent. It seems rather anomalous that a person may sell cheese impoverished in this respect, and yet be liable under the Act if he attempts to increase its food-value by the addition of foreign fat.

TEA.—It would have occasioned great surprise had either sample of this commodity been found adulterated. Tea is too well looked after by the Customs authorities at the port of entry, with the result that a factitious sample is, practically speaking, unheard of.

CREAM.—Both samples of cream examined contained boric acid to the extent of .093 per cent. and .217 per cent. respectively. As the Board of Agriculture limit is .25 per cent. they were passed as pure. How far the addition of preservative is necessary is difficult to state, but one's personal opinion is that what applies to milk should apply equally to milk-products.

SEPARATED MILK.—One sample only was analysed, and this contained 0.3 per cent. of milk-fat—a result consistent with a machine-skimmed article.

## FOOD AND DRUGS

(continued).

### WORK DONE NOT UNDER THE SALE OF FOOD AND DRUGS ACTS.

#### BUTTER.

Forty Samples of Butter were analysed in connection with the butter fraud case early in the year (Rex v. McPartlin and others). Thirty-four of these proved on analysis to contain foreign fat varying in amount from 85 to 95 per cent. Over thirty samples were taken on various dates by the Inspector of the Irish Board of Agriculture who, it will be remembered, adopted detective methods to prove systematic fraud. That handsome profits were indicated was shown by the bills produced in Court, and that the accused went about their work cautiously was no less demonstrated. Here was a typical example of fraud where those implicated were selling an inferior article at the price of the substance asked for. Not for one moment was any question raised as to the wholesomeness or otherwise of margarine, though many of the samples were of a low-grade character. Such practices merit severe treatment, and the sentences of imprisonment varied from terms of a few months to over a year.

ONE SAMPLE OF MARGARINE, also, was submitted, which was genuine inasmuch as it contained over ninety per cent. of fat foreign to butter fat.

---

#### WATER.

Since my appointment it has been my duty, as it was that of my predecessors, to make a monthly chemical analysis of the public water supply, the results of which will be found in the accompanying table. I have drawn a chart in addition showing the variability of the albuminoid ammonia and total and permanent hardness. So frequent an analysis enables me to speak with some



confidence upon the subject from my own particular standpoint. Though it cannot be affirmed that Wigan stands alone in having a monthly check upon the quality of its water, yet it is the exception rather than the rule to find a Corporate body which so closely safeguards the public health in this respect. A single analysis may reveal the potability or otherwise of a water, but a frequent examination is infinitely more valuable, inasmuch as variations, if serious, will indicate the type and degree of pollution. Slight seasonal differences will occur in any supply, and the attached table and chart will show that the albuminoid ammonia figure in the town's water is liable to such variation month by month. I specially mention albuminoid ammonia, as upon this factor is largely based the opinion as to the degree of organic purity. It is in fact a measure of the complex nitrogenous organic matter (not of ureal origin) present in water which so often is indicative of excremental pollution. What should be the actual limit of ammonia derived from such sources is hard to decide. Rather should the analyst take all figures into consideration, and if such factors as free ammonia, chlorine, and oxygen absorption be low, nitrites be absent and so on, an albuminoid ammonia number above any obtained in the Corporation samples would not debar the water for sanitary purposes.

There are several interesting facts revealed in the regular analysis. First, there is almost complete absence of free ammonia, which, in conjunction with the low chlorides content, means no ureal contamination; the organic matter giving rise to albuminoid ammonia is of a stable nature; nitrification is complete; no nitrites found—if present they are probably due to the incomplete conversion of ammonia (derived from either ureal or excremental material) into the final oxidation product, nitric acid, fixed of course, as a salt. Although the oxygen absorption figure is not included in the official report it is, in my opinion, instructive, and I have occasionally made the determination as a check on the other “parts per million” figures. By a process of moist combustion the organic matter present in the water is destroyed and the amount of oxygen necessary to effect this change is,



approximately, a measure of such contamination. The results however, have to be interpreted cautiously, as other bodies, inorganic in nature, have the power of absorbing oxygen. In the case of the public supply the data under this heading is consistent with purity, and conjointly with the albuminoid ammonia number shows freedom from pollution. The Degree of Hardness (before and after boiling) is of much importance, and slight variations occur month by month. The Hardness after boiling or permanent hardness—which is due to presence of sulphate of lime or magnesia—is consistently higher than the temporary hardness or that due to the presence of carbonate of lime or magnesia. The higher the hardness the more soap has to be used before becoming available for detergent purposes, or in other words the greater the waste. The rainfall does not appear to exert much influence upon the degree of hardness of the water.

Taken throughout the year, the hardness curves are in fair accordance. There is a reduction in total hardness of two grains per gallon from March to May—the most serious difference—but subsequently there are even variations apparently uninfluenced by excessive rainfall.

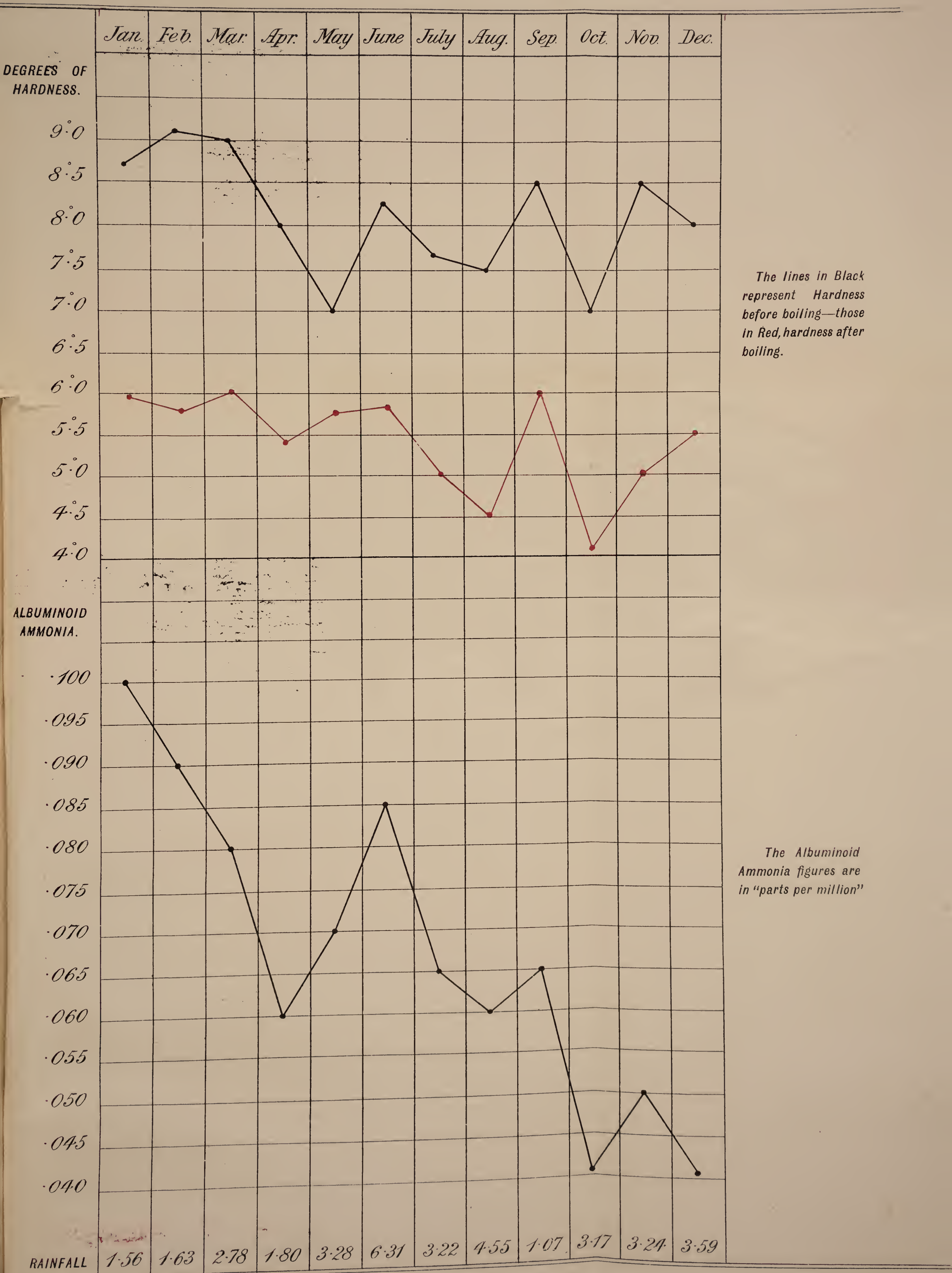
Organic contamination as indicated by albuminoid ammonia plots out in agreement with the hardness particularly from June onwards, the last three months of the year being exceedingly low.

I have made an analysis of the mineral constituents of the public supply which may be of interest, and is appended herewith.





Chart showing variation in Degrees of Hardness, &c.







## TABLE VII.

## WIGAN PUBLIC WATER SUPPLY.

*Sample of Water taken from Cellar Tap, at Health Offices, King Street West, Wigan.*

## NATURE OF DISSOLVED MINERAL MATTER.

	<i>Grains per Gallon.</i>			
Total Solid Matter in Solution (at 212° F.)	..			12.55
Mineral   ,,       ,,       ,,       (at 360° F.)	..			10.73
<hr/>				
Loss on Ignition	..	..	..	1.82

From the analytical results obtained the “*mineral matter*” was presumed to consist of:—

	<i>Grains per Gallon.</i>			
Carbonate of Lime	..	..	..	2.50
Sulphate of Lime	..	..	..	1.71
Sulphate of Magnesia	..	..	..	3.95
Chloride of Sodium	..	..	..	1.65
Iron, Alumina, and Silica	..	..	..	.28
Nitrate of Sodium	..	..	..	.54
<hr/>				
				10.63
Undetermined	..	..	..	.10
<hr/>				
				10.73

## G A S .

During the year I examined the Gas Supply, as follows:—

<i>Date.</i>							<i>Illuminating Power</i> <i>(In Sperm Candles).</i>
March 14th	..	..	..	..	..	..	18·39
April 10th	..	..	..	..	..	..	18·08
May 10th	..	..	..	..	..	..	18·36
November 16th	..	..	..	..	..	..	18·36
December 17th	..	..	..	..	..	..	18·22
Average	..	..	..	..	..	..	18·28



## SEWAGE EFFLUENTS.

Three official samples taken by the Ribble Joint Committee's Inspector were submitted in January. These samples correspond to the "Defence" samples taken under the Sale of Food and Drugs Act, and are without delay usually analysed by an official of the Authority interested, as a check upon the figures of the Joint Committee.

The samples were as follows and gave the results as below :—

(1) Effluent from Wilbraham Ditch, 15/1/07, 12.30 p.m. Copperas and Irrigation.

(2) Effluent at No. 1 Outlet, 15/1/07, 11.15 a.m. Copperas and Earth Filtration.

(3) Effluent at No. 2 Outlet, 15/1/07, 11 45 a.m. Copperas, Irrigation, and Earth Filtration.

All results expressed in grains per gallon.

	(1.)	(2.)	(3.)
Appearance	Yellow.	Yellow.	Cloudy.
Odour	Earthy.	Earthy.	Earthy.
Chlorine	5.0	4.0	7.0
Nitrates as Nitrogen	.223	.577	—
Free Ammonia	.80	.50	—
Albuminoid Ammonia	.10	.08	—
Oxygen Absorbed:—			
In 3 Minutes	.25	.14	—
In 4 Hours	.66	.25	.47
Alkalinity (as Free Lime)	Nil.	Nil.	—
Deposit	Organic.	Organic.	Organic.
Suspended Matter	Traces.	Traces.	Traces.

No. 3 unfortunately was broken in transit, the greater part of the sample being lost. So far as the limited analysis went it was, however, a very fair effluent.

No. 2 is a good effluent, and No. 1 also fairly satisfactory.

Each Rivers Authority has its own particular standard, the Local Government Board having, on more than one occasion, refused to specify a standard of purity for sewage effluents on the ground that all the circumstances of each case should be taken into consideration.

If the Corporation can keep under  $\cdot 75$  grain per gallon of Oxygen absorbed in four hours, and  $\cdot 075$  grain per gallon of albuminoid ammonia, and show, in addition, more or less, complete nitrification, they are not likely to have adverse criticism from the Ribble Authorities.

**County Borough of Wigan.**



**CONFERENCE**

OF THE

**ROYAL SANITARY INSTITUTE,**

HELD IN DUBLIN,



**FROM JUNE 25th—29th, 1907.**



**Delegate's Report.**



Health Office

Wigan,

July 5th, 1907.

To the Members of the Health Committee.

MR. CHAIRMAN AND GENTLEMEN,

I attended as one of your appointed delegates the Conference of the Royal Sanitary Institute held in Dublin, from June 25th to June 29th inclusive.

The Conference, not being a Congress, took more the form of discussions on various sanitary matters, and although I have not given an epitome of what each speaker said, I have in the report which I am presenting to you noted the important points raised by the opener of the discussions.

Thanking you for the privilege of being present,

I remain,

Your obedient Servant,

WM. BERRY,

Medical Officer of Health,

## REPORT.

## ROYAL SANITARY INSTITUTE.



CONFERENCE FROM JUNE 25TH TO JUNE 29TH, 1907 (INCLUSIVE)  
HELD IN TRINITY COLLEGE, DUBLIN.

The Conference had reference to Sanitation and Public Health and was divided into three sections :—

- I. Sanitary Science and Preventive Medicine.
- II. Engineering and Architecture.
- III. Physics. Chemistry, Biology, and Meteorology.<sup>1</sup>

The opening meeting was to have been opened by the Earl of Rosse, K.P., F.R.S., D.C.L., L.L.D., &c., but owing to indisposition, Sir Charles A. Cameron, C.B., M.D., F.R.C.S.I., gave the inaugural address.

He stated that in the very early part of last century there were practically no Sanitary Inspectors and no Medical Officers of Health. The laws in reference to Public Health were nil.

Wells were the chief water supplies of towns, and these were not pure and wholesome. The main drainage of towns were almost unknown, and water carriage of filth removal had not commenced. No proper disinfection had been established, therefore the urban mortality was very high, and in excess of the death rate of the rural districts.

In consequence in this state of insanitation the population scarcely increased in these countries and in the most of Europe. Taking broadly the great increase of population in England and Wales commenced early in the 19th century. What a contrast in the census figures for 1801, the population being then 8,892,536 ; whereas in 1901, 32,527,843 ; thus in a century the population increased by 23,435,307, and was nearly quadrupled ; the increase has still gone on, for the estimated population in the middle of 1907 was 34,945 600. In Ireland, however, the population is  $1\frac{1}{2}$  millions less than it was in 1801 ; this decrease being due to emigration and other causes.

He pointed out how the Death Rate had been reduced, and stated that the Death Rate in the City of London during a period, 1729 to 1780, was a ratio of about 50 persons per 1,000 of the population.

In 1906 the Death Rate was 15·11 per 1,000, or corrected for age and sex distribution, 15·88. The deaths in Dublin in the 17th century exceeded the births by three-fourths. In Manchester the mean Death Rate during the decennial period, 1861-1870, was 35·38 for males, and 36·36 for females; in 1906 the corrected Death Rate was 21·57. The Mean Annual Rate in Liverpool in the decade ending 1875 was 31·3 per 1,000; in 1906, the crude Rate was 20·64, and the corrected Rate, 22·15.

The great difference between Urban and Rural Death Rates has been greatly lessened. Long ago the mean expectation of life in those who lived all their life in the country was probably twice that of the dwellers in the towns, and even in recent years the difference is very great.

In the decade ended in 1860 the Urban Death Rate was 24·77 per 1,000, and the Rural Rate 19·9; a difference of 4·8. In 1906 the Urban corrected Rate was 16·88, and the Rural Rate 14·42, a difference of 2·46.]

In regard to Dublin the estimated population this year was 300,691. In the Public Health Department, including the Superintendent and Staff of the Corporation Baths and Wash-houses, they had 112 persons employed. He said that 100 years ago Dublin was the largest town in the United Kingdom outside London; now it is exceeded in population by six cities, which during the 100 years had grown from moderate size to enormous proportions.

The poverty of the people is shown by the following.—16 or 18 per cent. of deaths in English towns occurred in Workhouses, Hospitals, and other Institutions; more than 40 per cent. of the deaths in the City of Dublin take place in these Institutions. The Corporation had expended £485,000 in clearing unhealthy areas, and a very large sum in the erection of baths, wash-houses, refuse destructors, abattoirs, &c. The Corporation had also expended £345,000 in providing dwellings for the working classes and a disinfecting house, refuge for persons whose residences were undergoing disinfection, or who had been in contact with cases of Infectious Disease. A sum of considerably over half a million of money had been expended in main drainage works, designed to free the Liffey from pollution and to prevent the blocking of the street sewers.

Zymotic diseases had been reduced by the sanitary measures.

Typhoid Fever had declined in Dublin in consequence of the sanitary measures carried out. Some years ago Dublin was largely a midden city, but since he became Medical Officer of Health incessant



efforts had been made to adopt the water carriage system of filth removal, and now Dublin had practically got rid of the objectionable midden system, a system which, existing still in some English towns, helped to raise their death rates. Some years ago Dublin had the highest death rate from Typhoid Fever amongst the towns in the United Kingdom, with the exception of St. Helens, in Lancashire. Now, Typhoid Fever is an insignificant factor amongst the causes of death. In 1906 fifteen persons out of every 100,000 died from Typhoid Fever.

In Dublin a large number died from Tuberculosis. They had a rate of 3.15 per 1,000 of the population from Tuberculosis of the Lungs, and from all forms of Tuberculosis, a rate of 4.71 per 1,000 of the population. Much had been done to mitigate this scourge, and Sanatoria for Consumptives were being established.

He alluded to the supply of Milk to the City, and feared much of it was not sent under the best sanitary conditions, and when Milk had been exposed to danger of pollution it was better to boil it.

With regard to Infantile Mortality, it was, he said, a sad fact that one-fourth of the deaths which occurred in the 76 largest England towns were of infants under one year of age. In 1906 the Infantile Death Rate in Dublin was exactly the Mean Rate in the 76 largest towns excluding London, namely, 4.3 deaths per 1,000 of the total population.

In the relation between births and deaths Dublin was better than the English towns, the deaths being 146 to a 1,000 births, whereas in the English towns it was 151 deaths to a 1,000 births. In Dublin from Infantile Mortality the deaths were less than one-fifth of the deaths from all ages, whilst in English towns they were more than a fourth of the total deaths.

The high rate in Dublin, therefore, was not due to a relative Infantile Mortality or Zymotic Rate, but to a high rate amongst the adult population.

He concluded an eloquent address by stating that we had three great problems which demanded solution, and these are :—

- (1). How was the terrible Mortality of Children to be lessened?
- (2). How were the ravages of Tuberculosis to be minimised?
- (3). How were the very poor to be provided with healthy dwellings?

The efforts, he said, of all such Associations as the Royal Sanitary Institute, of the Public Health Authorities, of the legislative and administrative bodies of the State, and of the people at large, should earnestly try to solve these momentous questions.

## SECTION I.

## SANITARY, SCIENCE, AND PREVENTIVE MEDICINE.

President :—SIR CHARLES A. CAMERON, C.B., M.D., F.R.C.S.I.,  
D.P.H., &c.

The Subjects for discussion were :—

- (1). Poor Law and Sanitary Administration in Ireland.
  - (2). The Role of Sanatoria as a factor in checking Tuberculosis.
- 

## SECTION II.

## ENGINEERING AND ARCHITECTURE.

President :—P. O. COWAN, B.Sc., M.Inst.C.E.

The Subjects for discussion were :—

- (1). The Economic Housing of the Working Classes in Town and Country.
  - (2). Could the existing Statutory and Departmental Requirements as to Sewage Disposal be relaxed in certain cases with advantage to the community?
- 

## SECTION III.

## PHYSICS, CHEMISTRY, BIOLOGY, AND METEOROLOGY.

President :—SIR JOHN WM. MOORE, M.D., D.P.H., F.R.C.P.I.

The Subjects for discussion were :—

- (1). The Climatology of Ireland in relation to Public Health.
- (2). Disinfection considered from a Medical, Chemical, and Bacteriological Standpoint.

Of these papers, two were of particular interest, namely :—

(1). The Economic Housing of the Working Classes ; and (2). Disinfection considered from a Medical, Chemical, and Bacteriological standpoint.

With regard to Housing, it was pointed out that the difficulty is in the cost of the houses. It was impossible to build suitable houses for the poorer classes at a rent which covers the cost and interest, so that the rates are likely to be called upon when such houses are built.

In reference to the subject of disinfection, much information was given, and a good deal said about the standardisation and efficiency of disinfectants. For houses Carbolic Acid, Chloros, and Formalin seemed to find most favour. I don't, however, see any need to change our present system, which is more or less efficient, cheap, and we are able to get the houses flushed with fresh air.

Until some settled mode of house disinfection comes about we may as well choose the economical one, though it may be termed old-fashioned.





County Borough of Wigan.



# ANNUAL REPORT

OF THE

Chief Sanitary Inspector.

1907.



WIGAN :

THOS. WALL AND SONS LTD., PRINTERS, "OBSERVER" OFFICE  
1908.

## TABLE OF CONTENTS.

---

	PAGE
Summary of Nuisances dealt with     ...     ...     ...     ...	166
Common Lodging Houses and Houses Let in Lodgings     ...	167
Slaughter-Houses, &c.     ...     ...     ...     ...     ...	168
Offensive Trade Premises     ...     ...     ...     ...     ...	169
Food Condemned...     ...     ...     ...     ...     ...	169
Canal Boats     ...     ...     ...     ...     ...     ...	171
Smoke Nuisances...     ...     ...     ...     ...     ...	171
Infectious Diseases     ...     ...     ...     ...     ...	172
Food and Drugs and Margarine Acts     ...     ...     ...     ...	172
Factory and Workshop Acts     ...     ...     ...     ...     ...	173
Shop Hours Acts...     ...     ...     ...     ...     ...	174
Dairies, Cowsheds, and Milkshops Order     ...     ...     ...	174
Prosecutions     ...     ...     ...     ...     ...     ...	174



# Annual Report of the Chief Sanitary Inspector,

1907.

---

HEALTH DEPARTMENT,

WIGAN,

FEBRUARY 22ND, 1908.

*To the Chairman and Members of the Health  
Committee.*

SIR AND GENTLEMEN,

I have the honour to submit to you my Seventeenth Annual Report of the work done by the staff of this department, the work increases year by year, one factor being the different Acts which from time to time come into force and which appertain to the duties of an Inspector.

I have to thank the staff for their zeal and good work during the past year.

The following is a summary of the work done and a description of the nuisances dealt with :—

Houses and Premises Inspected and Visited ( <i>re</i> Nuisances and Complaints)	..	..	..	7,914
Nuisances Discovered	..	..	..	2,087
„ Abated	..	..	..	1,661
Notices Issued (Preliminary)	..	..	..	983
„ (Formal)	..	..	..	756
Letters Written <i>re</i> Nuisances	..	..	..	168
Re-Inspections Made (about)	..	..	..	5,217
Other Visits Made	..	..	..	610
Nuisances Remaining on Books, December 31st, 1907				332

## DESCRIPTION OF NUISANCES DEALT WITH.

Defective Drainage .. .. .	51
Choked Drainage .. .. .	148
Defective and Foul Gullies .. .. .	45
Gullies Requiring Grids .. .. .	38
Defective Slopstones .. .. .	2
Want of Slopstones and Pipes .. .. .	23
Defective and Choked Sink-Waste-Pipes .. .. .	31
Sink-Waste-Pipes Connected to Drains .. .. .	16
Defective Bath and Lavatory Waste-Pipe .. .. .	1
„ Soil-Pipe or Connections .. .. .	8
„ or Choked Water Closets .. .. .	28
„ Condition of Closets .. .. .	70
Want of Doors to Closets .. .. .	13
„ Ash-houses .. .. .	655
Defective Condition of Ash-houses .. .. .	40
„ or Choked Waste-Water Closets .. .. .	25
Want of Ashtub Covers .. .. .	7
„ Ashtubs .. .. .	1
Foul and Defective Privies and Ashpits .. .. .	130
Defective Water Supply to Closets .. .. .	1
„ W.C. Cisterns .. .. .	8
Insufficient Closet Accommodation to Houses or Work- shops .. .. .	23
Foul Closets .. .. .	5
Defective Spouts .. .. .	62
Want of Spouting to Premises .. .. .	9
Downspouts Connected to Drain .. .. .	2
Defective Roofs .. .. .	33
„ Yard Surface round Gullies .. .. .	23
„ Flagging or Paving .. .. .	49
Unpaved Yards and Passages .. .. .	43
Houses Without Proper Drainage .. .. .	15
„ Overcrowded and Keeping of Lodgers .. .. .	41
„ and Premises Filthy .. .. .	11
„ Requiring Limewashing .. .. .	36
„ with Filthy Closets .. .. .	16
„ „ Yards and Entries .. .. .	11
„ „ Damp or Defective Walls .. .. .	17
„ Without Proper or Through Ventilation .. .. .	29
Workshops Requiring Limewashing .. .. .	6
Bakehouses .. .. .	2
Defective Middensteads .. .. .	4
Want of Middensteads .. .. .	3
Accumulations of Manure .. .. .	11
„ Water .. .. .	12
„ Rubbish .. .. .	20
Keeping of Animals .. .. .	81
Smoke Nuisances .. .. .	2
Insufficient Means of Escape in Case of Fire (Factory or Workshops) .. .. .	3
Insufficient Ventilation to Closets .. .. .	33
Miscellaneous .. .. .	142

## COMMON LODGING HOUSES AND HOUSES “LET-IN-LODGINGS.”

These have been regularly visited by day and surprise visits paid by night, and the houses have been generally found to be kept in a clean state.

The keepers do their best to keep the houses respectable and are deserving of praise, especially when one considers the fact that their customers are of the “nomadic” class, and whose views, generally, are the reverse of the proverb “Cleanliness is next to Godliness.”

It is necessary to keep in constant touch with these houses in order to prevent any infringement of the Bye-laws.

### COMMON LODGING HOUSES.

No. of Common Lodging Houses in the Borough .	18
„ Lodgers Allowed Nightly .. .. .	814
„ Visits by Day .. .. .	2,465
„ „ Night .. .. .	219
„ Lodgers Reported as being received (per Returns) .. .. .	195,655
„ Letters Sent Out .. .. .	2
„ Houses “Let-in-Lodgings” on Register ..	49
„ Visits to Houses “Let-in-Lodgings” ..	184

### COMMON LODGING HOUSES.

<i>No. on Register.</i>	<i>House.</i>
1 .. ..	2 and 4, John Street.
2 .. ..	“Brown Cow,” Queen Street.
3 .. ..	18 and 20, Hardybutts.
4 .. ..	46, Queen Street.
5 .. ..	1, 3, 5, Union Street.
6 .. ..	16, Hardybutts.
7 .. ..	87, 89, 91, Millgate.
8 .. ..	1, Hardybutts.
12 .. ..	7, Wiend.
13 .. ..	1, Swift’s Yard, Millgate.
14 .. ..	7, Hardybutts
15 .. ..	32 „
24 .. ..	28, Wiend.
34 .. ..	27, Hallgate.
35 .. ..	19, Warrington Lane.
36 .. ..	1, 3, 5, 7, 9, Scholes.
37 .. ..	7 and 9, Union Street.
38 .. ..	36 and 38, Hardybutts.



## SLAUGHTER-HOUSES.

During the year numerous visits have been made to the different Slaughter-houses in the Borough, as well as Offensive Trade Premises.

As in the past year inspections have been made (at the request of the butchers) of doubtful carcasses.

Considerable time has been given to the houses, owing to them being scattered over the whole Borough. The attention of the butchers has at times to be called to infringements of the Bye-laws, and they have shown their readiness to comply with our request.

A great quantity of food has been inspected during the year and condemned and destroyed at the Miry Lane Depôt, often at the request of the consignees, as will be seen by the appended statement.

### SLAUGHTER-HOUSES AND MARKETS, &c.

No. of Slaughter-Houses in Borough .. ..	27
„ Offensive Trade Premises in Borough ..	7
„ Visits to Slaughter-Houses .. ..	1,154
„ „ Offensive Trade Premises .. ..	60
„ „ Markets .. ..	454
„ Letters Sent Out.. ..	9
„ Condemned Food Certificates Given .. ..	123

### SLAUGHTER-HOUSES.

Behind 8, Darlington Street.  
 „ 60, „  
 Upper Morris Street.  
 Rigby's Buildings, Scholes.  
 Behind 124, Scholes.  
 Wiend.  
 Water Street.  
 Behind 75, Wigan Lane.  
 Bottom Croft.  
 Shaw's Yard, Hallgate.  
 Clayton Street.  
 Hilton's Yard, Scholes.  
 Mill Yard, Scholes.  
 Behind 53, Birkett Bank.  
 Altham's Yard, Standishgate.  
 Silver Street.

## SLAUGHTER-HOUSES.—CONTINUED.

Behind 133, Standishgate.  
 122, Scholes.  
 132*a*, Ormskirk Road.  
 Walthew House Farm, Marsh Green.  
 274, Billinge Road.  
 808, Ormskirk Road.  
 Brickcroft, Lamberhead Green.  
 841, Ormskirk Road.  
 Smithy Brook, Goose Green.  
 270, Warrington Road.  
 Sayer's Yard, Scholes.

## OFFENSIVE TRADE PREMISES.

Millgate.  
 Church Street.  
 Crompton Street.  
 Hallgate.  
 Watmough's Yard, Scholes.  
 14, Scholes.  
 Jackson's Yard, Scholes.

Number of Beasts that have been Inspected by request during 1907 :—

No. of Beasts Passed	..	..	..	..	..	169½
„	Condemned	..	..	..	..	9
						<hr/> 178½

## FOOD CONDEMNED, 1907.

January. 1 Box of Herrings, 1 Beast, 1 Pig.  
 February. 1 Shoulder of Mutton, 53 Boxes of Kippers, 1 Pig.  
 April. 29 Rabbits, 103 Boxes of Kippers, 1 Beast, 2 Boxes of Haddocks.  
 May. 1 Bag of Offal, 100 Boxes of Kippers, 3 Boxes of Black Jack, 20 Boxes of Dried Haddocks, 14 Boxes of Kippers, 2 Boxes of Ray.  
 June. 1 Box of Hake, 5 Boxes of Dried Haddocks, 1 Liver, 5 Boxes of Spraggs, 4 Boxes of Mackerel, 11 Boxes of Hake, 2 Halibuts, 5 Boxes of Hake, 2 Boxes of Ray, 4 Boxes of Codfish.  
 July. 1 Box of Mixed Fish, 5 Kits of Herrings, 15 Boxes of Kippers, 1 Box of Finnon Haddock, 2 Boxes of Ray, 1 Beast, 7 Boxes of Fluke, 1 Basket of Shrimps, 1 Box of Mackerel, 2 Halibuts, 1 Box of Spraggs, 3 Boxes of Haddocks, 14 Baskets of Black Currants, 1 Kit of Codlings.

August. 74 Barrels of Gooseberries, 6 Barrels of Herrings, 57 Boxes of Kippers, 1 Barrel of Whiting, 1 Box of Skate, 6 Boxes of Hake, 3 Boxes of Fluke, 7 Boxes of Spraggs, 6 Boxes and 1 Kit of Gurnets, 10 Boxes of Magrams, 1 Bag of Offal.

September. 45 Rabbits, 437 Eggs, 1 Beast, 4 Boxes of Spraggs, 4 Boxes of Plaice, 2 Boxes of Codfish, 6 Boxes of Dried Whittings, 15 Boxes of Finnon Haddock, 39 Boxes of Kippers, 28 Boxes of Gurnets, 1 Box of Conger, 3 Boxes of Mixed Fish, 7 Boxes of Haddocks, 18 Boxes of Black Jack, 2 Boxes of Cole Fish, 21 Boxes of Mackerel, 3 Boxes of Flukes, 3 Boxes of Herrings, 2 Barrels of Herrings, 233lb. of Pork.

October. 47 Rabbits, 700 Eggs, 2 Beasts, 6 Boxes of Dry Codlings, 6 Boxes of Dry Haddocks, 13 Boxes of Finnon Haddocks, 1 Box of Gurnets, 3 Boxes of Haddocks, 22 Boxes of Black Jack, 12 Boxes of Cole Fish, 2 Boxes of Herrings, 2 Boxes of Hake, 3 Boxes of Witches, 1 Box of Pollack, 2 Boxes of Skate.

November. 68 Rabbits, 1 Beast, 1½ Halibuts, 19 boxes of Kippers, 2 Boxes of Codfish, 1 Box of Whittings, 10 Boxes of Hake, 2 Boxes of Cole Fish.

December. 19 Rabbits, 58 Pieces of Pork, 16 Hares, 4 Bags of Cockles.

SUMMARY.

7 Beasts.	773 Boxes of Fish.
2 Pigs.	9 Barrels of Fish.
1 Shoulder of Mutton.	7 Kits of Fish.
233lb. of Pork.	5½ Halibuts.
58 Pieces of Pork.	1 Basket of Shrimps.
1 Liver.	4 Bags of Cockles.
16 Hares.	1,137 Eggs.
208 Rabbits.	14 Baskets of Black Currants.
2 Bags of Offal.	74 Barrels of Gooseberries.

The following statement shows the quantities of unwholesome food destroyed at the Miry Lane Depot during the year :—

	<i>Tons.</i>	<i>Cwts.</i>	<i>Qrs.</i>
Fish .. .. .	36	10	1
Beef .. .. .	6	0	1
Pork.. .. .	0	18	0
	43	8	2

In addition to the above, the following was destroyed :—

	<i>Tons.</i>	<i>Cwts.</i>	<i>Qrs.</i>
Shell and Fish Refuse .. ..	37	7	3
Other Refuse .. .. .	298	6	3
	335	14	2



## CANAL BOATS ACTS, 1877 TO 1884.

These Acts have been carefully seen to during the past year, though the number of inspections has been less owing to attention being demanded by other branches of work in the department.

The conditions under which the floating population live in this district are very good, and improve year by year. What contraventions do occur are generally found to be an oversight of the owners, or the captains in failing to notify their respective owners of any defects.

H.M. Inspector (Mr. Llewellyn) on his annual visit paid tribute to the manner in which the work is performed.

## CANAL BOATS ACTS, 1877 to 1884.

No. of Boats Registered at Wigan	..	..	..	132
„ Applications for Registration during 1907	..	..	..	3
„ „ „ Granted	..	..	..	3
„ Inspections	..	..	..	114
„ Notices Issued	..	..	..	15
„ „ „ Complied With	..	..	..	9
„ Contraventions of Regulations	..	..	..	21
„ Boats Re-Registered	..	..	..	Nil.
„ Certificates Renewed	..	..	..	Nil.
„ Letters Sent Out..	..	..	..	39

## SMOKE NUISANCES.

The attention paid to the above continues to have a beneficial effect in the prevention of any nuisances.

The firemen have been spoken to when the emissions were beyond the limit, and letters have been sent to the owners.

## SMOKE NUISANCES.

No. of Observations Taken	..	..	..	..	116
„ Notices Issued	..	..	..	..	2
„ „ „ Complied With	..	..	..	..	2
„ Letters Sent Out..	..	..	..	..	4

## INFECTIOUS DISEASES.

The work entailed by the above has been very heavy on the staff of the department, and extra help has had to be obtained to cope with the disinfection of premises after convalescence.

## INFECTIOUS DISEASES (PREVENTION ACT).

No. of Houses Disinfected	..	..	..	..	1,596
,, Rooms	,,	..	..	..	1,974
,, Beds	,,	..	..	..	1,739
,, Mattresses	,,	..	..	..	1,166
,, Sheets and Quilts Disinfected	..	..	..	..	4,685
,, Other Articles	,,	..	..	..	11,836

No. of Premises Cleansed and Limewashed after Infectious Disease	..	..	..	636
,, Visits to Houses <i>re</i> Limewashing & Cleansing				821
,, ,, Infectious Disease	..			4,091
,, Letters Sent Out <i>re</i> ,,			..	25
,, ,, Limewashing	..	..		104

## SALE OF FOOD AND DRUGS ACT, 1877 TO 1899.

## MARGARINE ACTS, 1877 TO 1899.

Appended is the list of articles purchased during the year under the Sale of Food and Drugs Acts and Margarine Acts.

When the articles purchased "not formally" were found adulterated they were afterwards re-tried formally and found correct.

No. of Samples Obtained for Analysis	..	..	235
,, ,, Genuine	..	..	226
,, ,, Adulterated	..	..	9
,, "Not Formal" Samples	..	..	41
,, Letters Sent Out..	..	..	21

				<i>Not Formal</i>					
				<i>Samples.</i>	<i>Genuine.</i>	<i>Adulterated.</i>	<i>Samples.</i>		
Butter	..	..	..	33	..	30	..	3	.. 1
New Milk	..	..	..	144	..	142	..	2	.. 9
Cheese	..	..	..	5	..	5	..	—	.. 1
Margarine	..	..	..	1	..	1	..	—	.. —
Brandy	..	..	..	8	..	7	..	1	.. 8
Rum	..	..	..	9	..	8	..	1	.. 1
Whisky	..	..	..	3	..	2	..	1	.. 3
Separated Milk	..	..	..	1	..	1	..	—	.. —
Condensed	„	..	..	4	..	4	..	—	.. 4
„	„	(Machine							
	Skimmed)	..	..	9	..	9	..	—	.. 9
Clotted Cream	..	..	..	1	..	1	..	—	.. 1
Cream Cheese	..	..	..	4	..	4	..	—	.. 4
Sweet Spirit of Nitre	..	..	..	6	..	5	..	1	.. —
Coffee	..	..	..	5	..	5	..	—	.. —
Tea	..	..	..	2	..	2	..	—	.. —
				235	..	226	..	9	.. 41

(7 Milks procured “not formally” were for Bacteriological Examination).

Prosecutions	..	..	..	1
Convictions	..	..	..	—
Cases Withdrawn	..	..	..	1
No Action Taken	..	..	..	6
Persons Warned	..	..	..	2

## FACTORY AND WORKSHOP ACTS.

The above Acts have been found to be well observed by the different persons interested, and no legal action has had to be taken.

The Closing Order of the Barbers and Hairdressers, which is in force, demands more attention than can be given at the present time. A large number of visits have been paid at night time as well as through the day, and in some cases where infringements had occurred, the persons responsible were written to and warned of the procedure resulting from a recurrence of the offence.



## SHOP HOURS ACTS.

No. of Visits to Shops (Day)	..	..	..	194
„ Day Observations	..	..	..	3
„ Night	..	..	..	4
„ Visits <i>re</i> Closing Order (Hairdressers and Barbers)	..	..	..	567 (Day).
„ Visits <i>re</i> Closing Order (Hairdressers and Barbers)	..	..	..	363 (Night).
„ Letters Sent Out <i>re</i> Infringements of Closing Order..	..	..	..	7

## FACTORY AND WORKSHOP ACTS.

No. of Visits to Workshops (Day)	..	..	1,182
„ „ Factories	..	..	328
„ Letters Sent Out	..	..	47

## DAIRIES, COWSHEDS, AND MILKSHOPS ORDER.

No. of Visits to Dairies, Cowsheds, & Milkshops	127
-------------------------------------------------	-----

## PROSECUTIONS, 1907.

March 22nd.—For exposing for sale 28 pieces of beef, weighing 6 cwts., which were unsound, diseased, and unfit for the food of man. Fined £20 and costs

May 23rd.—For selling to the prejudice of the purchaser one pint of new milk, not of the nature, &c., demanded.—Case withdrawn.

December 12th.—For non-compliance of notice under P. H. Acts for nuisances existing. 3 Cases.—Cases withdrawn on payment of Costs.

„ For non-compliance of notice under the P. H. Acts for nuisance existing. Order made to remove the nuisance within 1 month and pay Costs.

In conclusion, Gentlemen, I thank you for your ready compliance with any suggestion I have had to make, and I again thank the members of the staff for their ready compliance with any instructions I have had to give them in the execution of their many duties.

I remain, Gentlemen,

Your obedient servant,

JOHN SUMNER,

(Assoc. Royal San. Inst.)

Chief Sanitary Inspector.















